

OZA **Amiga** Magazine

Volume 1 Edition 4

December 1992

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Choosing a Computer

AND MORE

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Self extracting
Assembler

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OZAmiga Magazine

This months cover pic.

*Supplied By David Jacobs from
the 24 bit PD library associated
with 24-Bits and Pieces*

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The OZAmiga is an entirely independant publication striving to be a clear voice for the many talented Amiga users throughout Australia. The publishers do not accept any liability for any incorrect statements or information found in articles contributed by independant authors. The OZAmiga magazine in no way condones the illegal duplication of commercial software.

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Editorial



Welcome to OZAmiga edition 4!!
Hi i'm Dave and as you can see I am the new editor. With this change comes what I hope will be an improvement to a potentially outstanding publication. There have also been other changes to our staff and I would like to take this opportunity to introduce them.

Neil McKnight has taken over as AMOS editor, he has been using AMOS since it was first released. I am sure you will find his section both interesting and helpful.

Juliet (Jules) Way is our new advertising manager and has a wealth of experience in that field (she talks more than I do!).

Raff Lerro is the new communications advisor and brings his knowlege from being a sysop of a major Gold Coast BBS.

Juan Boulter throws his technical knowlege into the production of our coverdisk.

This edition sees Chris Leathley continuing his assembly tutorial for beginners. He has included a self extracting assembler disk to help those going through his tutorial. Jules and myself have a look at Fun School 4, which is a godsend for parents as Jules will testify and I also look at a few games.

Well everyone I hope you enjoy the magazine this edition and don't hesitate to drop us a line if you have any queries or suggestions. As always OZAmiga is a publication that is aimed at catering for the general Australian Amiga public, so tell us what you want and we will do our best to provide it.

It's bye from me till '93!

David Reeves
EDITOR

First of all, congratulations on a keen magazine. It's the first time I have seen it on the stands so I plucked it with anticipated expectations. I was not disappointed, but of course it could have done with more.

As it appears to be a recent innovation, no doubt it will get even better. It is about time we had an Australian forum for Amiga users. Hopefully, in time we may be able to call upon your expertise to answer our many queries without having to write to the UK for answers.

Regards
Bob Beattie
Ballajura WA

Thanks for the congratulations Bob, it means a lot to us when we receive praise from our readers as you are the people for whom the magazine is printed.

If you have any queries, you can send them into us and we will attempt to answer them. As you may realize, in producing the magazine many professional contacts were established. We now have the ability to draw upon their knowledge to answer your questions.

In the unlikely event that these people can not help, we would then print your problem in the magazine and ask the Amiga public for answers.

Regards
Dave

I happened to notice volume 1 edition 3 of your magazine tucked away in a dirty, dark corner of a local newsagents the other day. I was amazed, yet happy to discover the existence of another Australian produced magazine dedicated to the Amiga. Despite taking only one hour to read, I was suitably impressed with the content and format.....except the editing!! Far too many typo's and grammatical errors. I would like to see more emphasis placed on programming (C, Assembly, AMOS etc), god knows the Amiga

Letters to the Editor

needs a serious magazine.

You may like to make the coverdisk bi-monthly to reduce costs.

Thanking you
Nigel Donaldson
Cumberland Park SA

Well thank you Nigel for your intrest in our magazine. We would like to let you and all of our readers know that programmers are on the top of our help list, in that not only do we intend to have regular, in depth tutorials on the different types of programming, we wish the magazine to become a showcase for the software written by local programmers.

With regard to the typo's and grammatical errors, you may have noticed (if you read the editorial) that our previous editor has been replaced by yours truly. Whilst this is not a guarantee that all typo's will cease, it should herald a marked improvement. Also, being a new reader you may not be aware that the OZAmiga is currently a bi-monthly publication with every intent on going monthly at the first available opportunity.

Regards
Dave

Today was my first encounter with the OZAmiga magazine. I am sure it had not been in the newsagent's computer section on my previous visits, otherwise I would of tried it. My first impressions of it were all good. More "MEAT" than "SAWDUST" as the butcher used to say. It is good to see what appears to be a magazine with real value. Keep up the good work. Local is best.

Yours faithfully
Tony Lyons
NSW

Hi Tony,

It was good to hear from you, we like to get feedback from our readers as all the
More on page 27

Amiga

Amiga 4000 The US Release

At the World of Commodore Show in Pasadena, held on the 11 September 1992, James Dionne, President and General Manager of Commodore Business Machines Inc, announced the imminent release of the powerful new A4000.

This new machine will feature Commodore's advanced graphics chip set that enables users to display and animate graphics in multiple resolutions at up to 256 thousand colours from an available palette of 16.8 million colours.

The new hardware features are driven by Amiga DOS release 3, the newest version of Commodore's multitasking operating system in combination with the Motorola 68040 main processor. While this new version of Amiga DOS takes advantage of the latest hardware features, it also maintains backwards compatibility with software written for previous versions.

The A4000 will come standard with:

- 120 MBIDE Harddisk
- 6 MB internal memory
- Dual speed, High density 3.5" floppy drive
- Amiga Dos version 3
- Cross Dos - to enable users to read & write MS-DOS formatted disks

Other key multimedia features include:

- A dedicated slot for video devices
- Four voice, dual channel digital audio
- Up to eight sprites, enabling high speed animations
- Full hardware video overscan

The manufacturers suggested list price for the A4000-040/120 is approx \$3699.00

New Horizons announces PROWRITE 3.3

New Horizons has announced a new upgrade to Prowrite, the best selling Amiga wordprocessor. Version 3.3 offers a number of enhancements on version 3.2, these include:

Support for Soft Logik's dynamic data exchange system - HOTLINKS, this enables closer integration between Prowrite and other Hotlinks capable software such as desk top publishers and graphics programs.

You can now have the text automatically wrap around pictures, either block style or following the picture's curves with an adjustable offset.

There are a great many enhancements to picture handling, including the ability to name your picture and search for them in your documents. You also have precise control over a pictures location and size.

There are many more improvements throughout the program such as improved font handling, system clipboard support, macro and AREXX enhancements, document password Protection, an optional vertical ruler, Faster postscript picture printing, support for Kickstart 3 and the new enhanced graphics chips.

New Horizons advise that registered users will begin receiving upgrade information from September 1992.

Amiga Vision Professional

Amiga Vision Professional builds and expands on the visual programming environment used in earlier versions of Amiga Vision.

Some of the new features included are: support for the Commodore CDTV player, speed and memory improvements and enhancements to the authoring environment. In addition, a freely distributable runtime module has been included, enabling flows created in Amiga Vision to be played back without loading the main Amiga Vision program.

EA Buys Origin

Electronic Arts announces an agreement to acquire Origin Systems Inc. Southport Qld September 11 1992

This transaction will be accounted for as a pooling of interests. EA will exchange approximately 1.3 million shares for all outstanding securities of Origin.

Origin was founded in 1983 by Robert and Richard Garriott to capitalise on the popularity of their Ultima series of role playing games. Today Origin employs 160 people and is one of the most successful and well known companies in the entertainment industry.

To date Origin has developed and published over 30 titles on multiple home computer and CD platforms, as well as titles for key video game platforms.

In the new organisation, Origin will be operated as a wholly owned subsidiary. Robert and Richard Garriott will continue their roles as CEO and Creative Director of Origin whilst taking on new roles as Vice President and Executive Producer of Electronic Arts.

This deal is reputed to be worth approximately 35 million dollars.

WHAT WHO WHEN
WHERE

GROUPS

WLAUG



West Lakes A

Amiga Owners

The West Lakes Amiga Users Group can HELP YOU...

Once a fortnight on Wednesday evening at 7.30pm the club members meet to discuss topics like, Games, WordProcessing, Graphics, DataBases plus much much more.

We also hold tutorials on the Workbench, Cli, Icons etc.

So if you have a problem getting through the last stage in your favourite adventure game, or can't work out how to use a program, some of our members may be able to help.

You also get 2, thats two FREE visits before you decide to join the club.....
So come to the West Lakes Primary School Edwin Street. Just follow the signs.

AMIGA
Set your imagination free

Ring Tom • (08) 49 3690 or Trevor • (08) 248 3365

Whyalla Commodore Users Group

Group activities generally include demonstrations of recent software titles for both C64 and Amiga, as well as discussions relating to members problems.

Meeting times :1st & 3rd Tuesday of
every month at 7.30pm

Meeting place :Staff room, Scott St
Primary School

Membership :\$10 per financial year

Visitors Fee :\$2 per meeting

Contact :Craig Foulkes
Secretary (086)45 3903

The groups AGM was held on the first Tuesday in November. At this meeting members were eligible to stand for committee membership.

If you or your users group can help with any suggestions for getting people back to user groups, as membership seems to be dwindling all around the country, then please send them in to :

OZAmiga User Groups
PO Box 567
Mirrabooka
WA 6061

SMART CARDS

By Peter Furey

PCMCIA/JEIDA Cards for computers.

On the left side of the Amiga 600 is a PCMCIA/JEIDA slot and into this hole plugs a tiny but powerful memory device which is not much bigger than a credit card and commonly known as a Smart Card.

The computer is ready and waiting but the Smart card is nowhere to be seen, a situation that readily lends itself to wild speculation.

The PCMCIA/JEIDA cards, or Smart cards are a much talked about mystery. Everyone postulates about their performance but no-one seems to know the real facts. The following information may provide some of the answers.

Personal Computer Memory Card International Association. (PCMCIA)

The PCMCIA was founded in 1989 to set standards for the use of IC Cards.

Currently, there are 150 members including all the major PC and hard disk manufacturers.

IC Memory Cards

The slot on the A600 is compatible with the PCMCIA/JEIDA industry standards for memory cards.

The standard is called Exchangeable Card Architecture or EXCAm.

The Personal Computer Memory Card Industry Association (PCMCIA) and the Japanese Electronics Industry Development Association (JEIDA) specify the mechanical and electrical characteristics of IC memory cards and card slots. All major manufacturers and vendors have agreed to comply to these standards with their card slots and card products.

Commodore is adhering to these standards.

IC memory cards are credit size cards which contain memory in a number of formats: SRAM, DRAM, Mask ROM, OPT (One Time Programmable) ROM and FLASH memory. Currently they are available with capacity from 256Kb to 4Mb. Cards of up to 64Mb capacity are scheduled to be available by mid 1993.

IC memory cards will eventually supersede hard disks (and maybe floppy drives) in portable computers.

CARD TYPES.

SRAM/DRAM

Static RAM cards function in a similar manner to a floppy disk. They may be read and written to directly in the card slot.

Dynamic Ram cards enable a higher density of data to be stored, but their greater power consumption make them impracticable for use.

The memory is volatile. - The cards use a battery to maintain memory. SRAM card battery life is approximately one year; all data stored on them will be lost when the battery expires.

Before changing the card, the data should be transferred to another device for storage.

The card battery may be changed with the card in the card slot, whilst the host (Computer) battery maintains the card memory, the card battery can be removed and replaced.

MASKED ROM

Masked Rom cards are supplied with software already on them. They are non-volatile and, of course, can only be read by the computer.

The cards have software installed on them at the factory and would be used for the large scale distribution of many copies of a program. (Games?)

ONE TIME PROGRAMMABLE (OTP)

Similar to Masked Rom cards, OTP cards can be programmed once and then only read. They might be programmed by the software developer or distributed and would be used for smaller scale distribution of software than Masked Rom cards.

FLASH MEMORY CARDS

Said to be the best of all memory cards, Flash memory is non-volatile (no battery required to maintain data) and may be read and written to many times.

In Sharp computers (with card slots) Flash cards may only be read. The card is treated as a ROM card. Data programmed onto the card is secure, it cannot be written to or changed.

Flash cards may be written to, using devices such as The DataBook Thin Card Reader (from Unitronics 02 858 5733).

Software on a Flash card is run directly from the card. Access time of the Flash card is 200 - 250 nanoseconds, (compared to 11 to 19 milliseconds access time of a hard drive.)

Data files can be written to computer memory, hard disk or floppy.

WHAT NEXT?

Future products based on the EXCA memory card format include a 9600 baud modem (expected soon,) networking cards, terminal emulations and a bar code reader.

Sharp Corporation and Intel have recently entered into a long term contract for the research, development, manufacturing and distribution of Flash memory and related products.

INTEL have released (July 1992) two more FLASH FILE memory cards for Sharp PC machines.

The access time of these new cards is 60 nanoseconds ! This means the computers fitted with these cards now enjoy a Zero wait state.

Flash memory storage - The Future of data storage.

David Jacobs *Has a look at* CineMorph

Morphing (or polymorphing to be precise) was until recently a term associated with Hollywood and high end computer graphics equipment. The most well known use of morphing would probably be the recent Michael Jackson video clip "Black or White".

Marketed by GVP, who are better known for their hardware, CineMorph gives even the casual computer graphics dabbler the ability to produce some stunning morphing animations easily and quickly. The software comes on one disk and includes a version for a

ANIM OPS format.

The CineMorph screen initially displays two windows, one for the Source image and one for the Destination image. These windows can be resized or moved like any standard window and can be



Now, we are able to produce effects that are on a par with what was only possible on \$50,000 Silicon Graphics work-stations only a year ago on our humble Amiga.

There are a number of morphing programs available for the Amiga including Morph Plus, Image Master and CineMorph. Of these, CineMorph has to be the easiest to master and use.

standard Amiga as well as a version for the accelerated Amiga. Installation is straight-forward and utilises the standard Commodore installer program. CineMorph requires at least 2M of FAST RAM although more is recommended. WB 2.x, a hard drive and accelerator are also recommended. CineMorph supports 24-bit colour, 8-bit greyscale and all standard IFF as well as JPEG images and can output a sequence of images as IFF files or an animation using the

opened in a variety of resolutions and configurations. The use of windows is very flexible as the images can be resized and images are loaded in their correct aspect ratio. This allows the user to load and experiment on a half or quarter size image for speed and then load the full sized image for final output.

The software supports Single Image, Dual Image and Sequence Morphing modes. Single Image mode transforms

a single image into a modified version of the same image. Dual Image mode transforms one image into another. By adding more cells, one series of morphs can follow another. Sequence morphing transforms one moving sequence of frames into another using key frames. This is used for full motion morphing such as a digitised sequence of live video.

CineMorph uses the concept of "Cells" to construct a sequence. The user loads an image into a cell (window) which is immediately overlaid by a "mesh". In Single Image mode, the image is automatically copied to the other Cell. In Dual Image mode, the user loads a Source image as well as a Destination image. The mesh is then "modified" in the Destination Cell by moving control "points" (see Fig. 1 & 2).

By moving these "points" on the mesh, one creates the morphing sequence. CineMorph allows the user to add more points by column or row as well as morph using a linear or spline based mesh. For the best results, one can and should use more points for finer control of the morphing process. The user can

also control the tweening curves for each point to produce the desired effect.

My initial impressions were the ease of use and the speed of the morphs (on a 25Mhz 7030). Although CineMorph

program also allows the preview of any frame in a sequence (see Fig. 3 & 4).

Overall, I found the package easy and fast to use. One could produce acceptable results in a very short time.

The manual was skimpy but adequate. I would have preferred to see a better discussion on the process of creating a morph. There were simple tutorials on each of the morphing modes and the manual has a glossary of terms as well as an index. Of the current crop of morphing programs, CineMorph rates as the easiest and quickest to use. If you are interested in morphing,



does not allow the same level of control as the other two programs, the quality of the morphs were quite good and the use of windows allows images to be smaller and side by side or full screen and overlapping. The lack of some sort of magnify or zoom capability restricts the ability to create precise control. The ability to overlay a morph with a mesh is handy for "debugging" however. The

give this one a link.

Thanks to Power Peripherals and Headlam Computers for the review copy.

David Jacobs is the editor of 24-bits and pieces, a publication dedicated to 24-bit imaging on the Amiga.



First Frame



Middle Frame



Last Frame

Modems For The Bulletin Board User.

**BY:
RUFF
LERO**

Firstly what is a Modem and why do I need one?

Contrary to some local theories, it is not just a fancy box of lights that makes the occasional noise, nor is it a "Magic Box".

In fact it is fairly "Magic" in what it does (especially the higher speed ones). Modem is actually a catch word for MODulator DEModulator, in other words it modulates computer signals into audio tones, so that they may be sent down phone lines. The modem also demodulates received tones back into computer signals.

The reason for all this Modulating and Demodulating is fairly simple.

Long ago in the dark mists of technology, a certain Mr. Alexander Graham Bell invented a wondrous device called the Telephone.

Now this device was designed to carry a person's voice practically any distance desired over just simple wire. It was soon discovered that to carry this voice any sort of distance, some sort of "amplifying" would have to be done, as the signals got progressively weaker and more distorted the further they went.

So someone designed and built these amplifiers and soon discovered that, unlike Hi-fi amplifiers, in order to amplify a human voice only a certain range of frequencies need be amplified. "Fine," said the bean counters as such amplifiers were much cheaper to build and maintain.

So to this day only a certain band of frequencies is actually amplified and passed by telephone equipment.

This would sound just fine to you and me so far because we usually only speak over our phone lines and don't usually try to play Hi-fi music over them. (Although some people do, but that's another story).

If we expect to try to send computer

signals over these lines. Guess what? Yep, these are outside the band of frequencies that Mr. Telecom amplifies!

"O dear," what to do? Simple, this is where our trusty modem comes in. It converts computer signals into voice frequencies which Mr. Telecom, or for that matter Mr. Optus, will happily amplify and pass all over the place! Great!

*But if we expect to try to send
computer signals over these lines,
Guess what?*

*Yep, these are outside the band of
frequencies that Mr. Telecom
amplifies!*

"OK," so what has all that got to do with you and me?

This is just so that when you or I use a modem we may have an understanding of what is happening. Why? Because it will help us eventually and besides it's interesting!

"OK," enough Techno babble and history lessons.

How to set up your Modem

Firstly you must determine just what kind of modem you have. You see modems ain't just modems. But fortunately these days there are only a couple of types to watch for. Barring of course Pre-War Valve, and Steam Driven jobs.

The most common style these days are fortunately the better type. These are your "Hayes" or "Hayes Compatible" modems. Don't worry too much about the name just yet. These modems are often referred to as "intelligent modems". This is not because they will someday rule the world, but because you can actually "talk" to them by way of your computer.

Wonderful I hear you say. So what?

This is actually quite handy, because if you have ever tried to set up some equipment with myriads of "configuration switches," then you would realise that not having huge banks of switches for configuration is much better and less confusing. (having your modem do almost everything itself is great).

So what do we need to know about these intelligent modems?

To go into all possible configurations of even the simplest of these modems would require at least several pages of boring commands etc.

I'm not going to delve too deeply here into those least used commands, but some of the more common and useful commands later in this document.

The other general type of modem is your most basic manual modem. In other words no auto dial, no auto answer etc. (Sometimes called a "DTR dial" modem.)

Although there is no definite line between these two modem groups, usually you'll have either one or the other.

The Manual Modem Type

Lots of fun these. Basically what you need here is a phone line, a computer, some cable to go to the computer from the modem (a straight 25 pin male to 25 pin female cable from say Dick Smith's or Tandy would do at a pinch) and tons of patience. These modems are really rather old hat these days, and it may be better if you could find, beg, borrow, or buy an intelligent modem.

What you need do is firstly determine the baud rate or speed of your modem. In the case of these older style modems this is usually fixed at say 300 or maybe

1200 baud or occasionally 1200/75 baud for Videotex. (Baud means line rate e.g. 300 "bits" of computer data a second or 1200 "bits" a second etc.). At lower speeds it's safe to say that a 300 baud modem is the same as 300 bits per second, although at higher speeds this is not so. Anyway this is a rather complex subject best left for another article as is Videotex.

There are a number of ways of finding out the speed of your modem, it may be printed on it, e.g. 1200 BAUD etc. Or you may have to find out elsewhere, say from the manufacturer. The point is you must know the speed, or speeds your modem is capable of. Try looking in the books that came with it or ask a mate who has one. You may even write to me.

When you have discovered that you are the proud owner of a 1200 baud modem or whatever, next you must set up your computer to send at the same speed.

How do you do this? First off you'll need a terminal program. "GPTerm, JRComm, NComm, or Term" etc. You can either buy these programs or you may find some in "Public Domain" or "Shareware" catalogues. Try downloading one from a bulletin board. My personal favourites are NComm for kickstart version 1.3 machines, and

Term for version 2.04 kickstart machines. These are excellent shareware programs. Look on your local bulletin board for them.

Somewhere within each of these programs is a way of setting the terminal speed, set it to the same speed as your modem. 1200 for a 1200 baud modem for example.

Set the "start and stop bits" settings to 1 for now, also set the "parity" setting to none and the "data bits" setting to 8.

Most bulletin boards are set to Eight Data Bits, No Parity and One Start/Stop bit.

Don't worry a great deal about what parity and data bits are as they rarely require settings different to these. Primarily Videotex services like Westpac's HandyLine and Telecom's Discovery (Viatel), use 7 Data Bits, Even Parity and 1 Start/Stop Bit. Also use a line speed of 1200/75, which means 1200 baud to you and 75 baud to them. This works quite well and there are reasons for these settings but again that's another story.

Run your software, dial your favourite bulletin board's number, wait for the answer tone from the modem you have dialled at the other end, then flick the

switch which puts your modem "on line" and away you go. (Your modem being a manual type, e.g. not Hayes compatible, usually requires manual switching on and off line and usually has a separate phone or phone connection to allow dialling out.)

There is actually quite a bit more to it but that's the general idea. I won't dwell on these as most people have intelligent modems these days. If you need more help than this try reading the sections on intelligent modems and protocols. They may at least help somewhat.

Intelligent and "Hayes" type modems

The idea here is much the same as for manual modems in that you will need the following to happily communicate:

- A modem
- A computer
- A serial cable
- A phone line

Intelligent modems do a lot more for themselves, as you will no doubt find out.

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2000 owners

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The Blizzard Board has recently been reviewed by the German magazines.....

Amiga Plus 8/92- "Highly recommended for everybody who needs more speed and memory for little money"

Amiga Joker 9/92- "Competitive review of 4 low cost accelerators (incl. an '020 board and ICD AdSpeed): The Blizzard board is the leader (of the test group)....."

BLIZZARD

TURBO MEMORY BOARD

SOLE DISTIBUTOR

One small but potentially troublesome point to note is that the Amiga supplies power out of both it's serial and parallel ports. Cut pins nine and ten off and insulate them. These carry plus and minus 12 volts to supply external devices. For the Amiga 1000 you need a 25 pin male to 25 pin male cable with pins twenty-one and twenty-three isolated.

Of course you also need a terminal program like "NComm," "JRComm," or "Term" etc.

First, connect your computer to the modem and the modem to your phone line.

The phone line connection may be accomplished several ways, eg. a "Mode 3" adaptor from Telecom or Dick Smiths. It just plugs in, in place of your phone, then you plug the phone into the "Telephone" socket and the modem into the "Accessory" socket. Or you can get Telecom or someone else (with an Austel licence of course!) to hard wire up a mode 3 connection.

These connections require some explanation as they are quite important, so I'll explain this mysterious "mode 3" stuff. The idea here is that when you are using your modem on the telephone line, you don't want anything else eg. other phones or fax machines on the line.

"Why not?" Because if you have other equipment across the line, chances are that you'll get transmission and reception errors eg. garbage on your screen or your downloads will take longer due to "retransmissions." This is because most modems like to work on the telephone line with only themselves using it.

So what a mode 3 connection does is when the modem is on line the "mode 3" wiring is arranged so that the modem is able to switch out all other equipment connected to the same phone line.

Next turn it all on, run your communications software and we'll attempt to configure it. Fortunately you'll only have to do this "configuring" once because when set up it is unlikely you'll need to change it.

In your terminal program find "speed or Baud rate" and make this the same as the maximum speed of your modem. (E.g. for a 2400 baud modem, set speed to 2400). Easy Huh.

This applies to most but not all modems. Setting up this way will work but may not be the optimum speed setting for data compression capable modems. If in doubt try this method first. Hopefully I will be able to cover data compression and reliable type modems in a later article.

Find "Start/Stop bits" or a similar setting and set this to 1 start, 1 stop bit. (This will allow you to communicate with most Bulletin boards. Things like Telecom's Discovery and WestPac's HandyLine will require 1 Start/Stop bit, 7 Data Bits and Even Parity, also they need a terminal emulation called "Vidiotex".)

Next find "Data Bits" or a similar heading and set this to 8 data bits.

Then find "Parity" and set this to none.

OK, now we can test our ingenuity. If you are not already in "terminal mode" find a way to get your program to let you get into terminal mode.

Now to try typing something. Try AT and then press enter. You should see your text "echoed" back to you and when you pressed enter the modem should have responded with OK or maybe just 0, (zero).

If you have a standard "Hayes" type modem typing AT followed by the enter key should result in the modem responding with a 0 (zero) or an OK if the computer, program, cabling, and modem are set up correctly.

If this is not the case check if your modem has lights marked TXD and RXD or a similar name. When you press a key on your computer keyboard these lights would flash, only quickly sometimes but they should be noticeable. If they do not flash check your serial cable. If they do flash but you get characters other than what you typed on the screen, check your terminal settings eg. speed, parity etc.

As there are many different commands for the modem at this point I'll only mention a few, these being the ones you may see kicked about the place in documentation for modems and terminal programs.

The AT we typed before told the modem, "Hey you! wake up and speak to me"

AT stands for attention.

All Hayes commands bar one I can think of, start with an AT and end with the user (you) pressing the enter key to tell the modem the command.

Some of the more common commands you are likely to see are:

ATDT xxxxx

This means Attention dial with tone, number xxxxx

ATDP xxxxx

Attention pulse dial number xxxxx

AT&F

Attention reset to factory defaults

ATZ

Attention reset to user's stored defaults written into memory via the AT&W command.

ATA

Attention answer (ringing) telephone line immediately

AT&W

Attention write to non-volatile memory current set up

A/

Repeat last command (no enter key required)

There are dozens more commands but you should read the documentation that came with your modem to find out about them as not all modems follow the Hayes command set exactly. It seems that each manufacturer has his or her own interpretations of these commands and some even have "extended" commands.

If there is enough interest I may write an article about Hayes commands later.

Protocols

What the heck is a protocol?

My dictionary in reference to protocol says something about "diplomatic transactions" and "the first sheet of a legal document," but for us I think it's safe to say "an agreed method of communications".

There are many communications protocols, but only a few should really concern us at this point.

These protocols are used for the "downloading" (I've logged on to a bulletin board and wish to obtain some software from them), and "uploading"

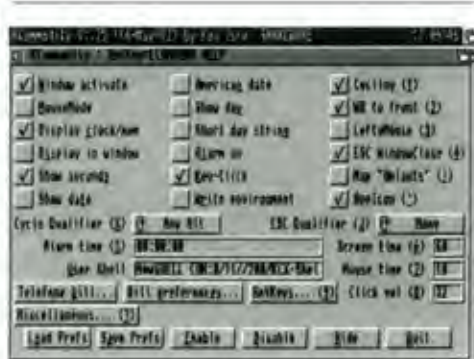
Whats On The Coverdisk This Edition

A68k Assembler

By far the largest file on the coverdisk this edition is the one called ASSEM. This is a self extracting file that creates an assembly disk containing A68k. The A68k assembler is an essential part of our continuing assembly language tutorial by Chris Leathley which is on page ??.

at each click.

This program is a SHAREWARE title, all the information you require to register is included in the .Doc file on our coverdisk. I recommend you do this as Perry has included a delay screen in this version that can be a bit annoying. Also by doing so you help the programmer and give him added incentive to produce more quality software to input into the Shareware market.



Our game this edition has been written by Perry Rosenboom in Victoria. **CLASSIC SOLITAIRE Version 1.0** is a high quality presentation of the well known card game Solitaire (also known as Klondike). Written in AMOS, this game is very easy to play and is an improvement on the original. You don't need to shuffle the deck all the time. Only mouse clicks are required to play Classic Solitaire. To move a card from one position to another just click first on the card you wish to move and the on the required destination. If you are moving a card to the Suit piles, you need only double click and the card will move automatically. To turn over the next card in the deck just click on the pile. When you have been through the

We have included on coverdisk 4 a multifunction commodity called **K-Commodity Version 1.75**. This is a very useful collection of helpful little programs.

- A clock display which has several options like showing the date in either American or German notation and displaying an accumulated on-line time. There is even an alarm for the forgetful amongst you.

- A memory usage display that shows either free chip and fast memory or the total amount of free memory. It can do this numerically or by way of a simple graphic.

Our regular readers will note that there is no virus checker on the coverdisk this edition. This is due to a lack of space caused by the self extracting A68k Assembler. This disk has been checked and found to be clear of viruses. As of next edition we will continue with our regular virus checker to help stop this terrible disease.

deck once, click on the space where the deck was and it will flip over and start again.

The deck can only be turned over three times and you can set the number of cards that turn over

- A screen and mouse blander to avoid screen burn. This is also switchable between a blander and a dimmer.

- A telephone bill calculator which will be of great use to those with a modem habit and a large bill !!

- HotKey Shell-Start allows you to start a shell using your own parameters.

- Exploding Windows allow you to set the number of frames for the implode/explode rate, no more slowing your machine down just to improve the look of your system.

- A mouse accelerator which can be given an increment factor ranging from 2-10 and a delay threshold between 0-10.

- Snap Memory is a special feature for developers. It allows you to snap the currently available amount of free memory via a hotkey. Selecting the same hotkey a second time will display the difference between free and available memory. This may be useful in detecting programs which do not free all resources used during runtime.

To make life even easier there is an on-line help function that operates in the Main, Bill, Preferences, HotKeys and Miscellaneous windows. To use the help function just hit the "HELP" key in one of the above windows. What could be simpler?

These are not even half of the functions offered by K-Commodity written by Kai Iske in Germany. I am positive that everyone will find something useful for them within the K-Commodity line up.

Neil McKnight has also included two files of code for the AMOS users. These are called ChunkSearch.amos and ParagraphSlicer.amos. They can be found in a directory named AMOS (Funny that!!).

(i.e., I give them a copy of some software or text, hopefully not pirated!).

The idea here is that some form of "error correction" is used. This is because we are operating on telephone lines. The occasional bit of line interference does not wreck our whole download or upload, or print reams of rubbish on our screen or printer. Despite what Telecom or Bell or any other phone company says, you do get the occasional bit of noise and hash on your phone line. (Some more than others.)

What happens is this for instance, say we log on to a bulletin board, find some good looking software etc. and attempt to download it. After checking that the bulletin board and our terminal program are set to the same protocol e.g. X-Modem, things happen like this:

You tell the bulletin board you wish to download file blah blah blah a nifty Amiga demo. The bulletin board usually tells you something like "ready to download file 'blah blah blah' press control x to abort" so you then tell your terminal program to download and the process begins.

The bulletin board will send a "packet" of data (this packet may be small or quite large but is rarely the whole file) and contains a portion of our program and some attached error correction data. Our machine will look at this packet and check it for errors it does this

via a fairly complex method of mathematical routines and then compares it to the attached error correction data. If the packet of data is OK (i.e. no errors) it sends a command back to the bulletin board for the next packet (the ACK character or Acknowledge). The bulletin board will then send the next packet and so on, until all of your naughty pictures or nifty game has been transferred. "What happens if we

receive a packet of data with errors in it?" Glad you asked. When your machine finds out that it has a packet with errors in it, it simply asks the bulletin board in our example to resend the packet (It sends the NAK or Negative Acknowledge character). It will do this until it receives that packet without errors.

This is commonly called a "retransmission." As you can see, data with lots of errors caused by line noise, etc., can take quite a bit longer to flow down the old phone line than clean error free data. Each of these retransmissions takes time of course. Too many can cause our

protocols you will see around the place, for example X-modem, Y-modem, Z-modem, J-modem, Kermit, and Sealink to name a few.

One of the better and latest of these protocols is Z-Modem. It is quite a lot better than the rather dated X-Modem and it's close cousin Y-Modem.

Z-modem basically requires that the receiver send data back only for a bad data packet. Because of this the sender, you, just keep sending and do not have to wait for the receiver to send a "got that one OK" message. As you can imagine this is quite a bit quicker. The same applies as for X-modem in the case of bad data, though you will still get retransmissions.

It is therefore preferable to use Z-Modem if you can.

Without doubt as time rolls on, better and better protocols will be written, so it's a good idea to check your friendly local bulletin board from time to time for upgrades.

So ends my story on modems. It is not intended as a complete user manual on driving software or the functions and configurations of different modems, but merely to help those who wish to understand more about modems and communications.

There are many different communications programs out there, as there are many different brands and types of modem, each one different. It's best

to check the supplied documentation with these programs or modems on how to set them up.

BCNU
Raff...

OZAmiga MEGAboards

PARADISE	075 97 1717
BLITZ	075 72 0719
POINTLESS	003 91 2042
AMIGA HANGOUT	003 99 3492
WESTCOAST TAS	004 71 2236
DENSE MIST (Skypix)	02 416 3143
AMIOZ (Skypix)	02 627 4442
AMIGA MAGIC	02 750 6053
ALL AMIGA	02 876 8965
TWISTED PAIR	02 969 2407
AMIGA CENTRAL	03 376 6386
CLUB AMIGA	03 527 2835
THE ROUNT TABLE (Skypix)	043 43 3036
THE BLUE MARLIN (Skypix)	043 85 1463
DESKTOP UTILITIES	06 239 6659
CCUG Qld	07 808 7694
AAUG SA	08 297 0478
THE HAVEN (Skypix)	08 344 3075
DARK ROOM	09 332 6908
MULTILINE	09 370 3333

program to give up trying and drop the line! When all of the file or program has been sent, the bulletin board will send an EOF or end of file character to tell our machine "that's it, no more data".

Different protocols merely change such things as the packet size and the method of error correction and detection but this makes them almost completely incompatible with one another. There are many

By: Chris Leathley

Part 2

Ok, were back after a short delay. Last issue we looked at the basic architecture of the 68000. We'll start this month by looking at the memory configuration of the Amiga.

The Amiga has two distinct types of memory, CHIP and FAST.

CHIP memory, as the name suggests is accessible by the custom graphic and sound chips of the Amiga and the 68000.

FAST memory can only be accessed by the 68000. With the new Amiga's the amount of CHIP type memory is increasing

The Basic address configuration of the Amiga

ADDRESS RANGES AND NOTES

\$000000 - \$07FFFF

512k of CHIP memory

\$080000 - \$0FFFFFFF

An extra 512k of CHIP memory if you have a new Amiga.

\$200000 - \$9FFFFFFF

Up to 8 megabytes of FAST memory

\$BFD000 - \$BFDFFF

Amiga custom CIA chips (Even addressing)

\$BFE001 - \$BFE01F

(Odd addressing)

\$C00000 - \$C7FFFF

Internal expansion FAST memory (Amiga 500's)

\$DFF000 - \$DFFFFFFF

The Amiga's custom chips registers

\$F00000 - \$FFFFFFF

Kick Start (The operating system)

As you can see there is a lot of unused addresses with this memory map. A lot of the others are reserved and can't be used. The rest are used for external hardware boards (eg. HardDrive controllers) and for shadow copies of Kickstart.

Addressing Modes of the 68000

The one thing that makes the 68000 such a powerful beast is the number of different addressing modes most instructions can handle. What other processors do in many lines the 68000 can do in just one. Here is a table of the Addressing modes(Effective Addresses) of the 68000.

#xxxx	Immediate Data (Byte, Word and Long)
Dn	Data register Direct
An	Address register Direct
(An)	Address register Indirect
(An)+	Address register Indirect with Post-Increment
-(An)	Address register Indirect with Pre-Decrement
d(An)	Address register Indirect with Displacement
d(An,ix)	Address register Indirect with Displacement and Index
xxxx.W	Absolute Short
xxxxxxx.L	Absolute Long
d(PC)	Program Counter with Displacement
d(PC,ix)	Program Counter with Displacement and Index

"Wow, I'm lost!". Daunting isn't it! Don't worry. Even the best programmers look at that for the first time and close the book. The real fact is that once each of them is understood, the world is your oyster.

Let's start by looking how each instruction is told how to perform. A instruction can use either one or two of the different types of Addressing Modes. They can be mixed and used in any order, with the exception that the Program Counter modes (d(PC), d(PC,ix)) cannot be used in the destination operand. Instructions use this template for their use.

INSTRUCTION SIZE SOURCE DESTINATION

The Size is represented by a single ascii character:

B = BYTE (8 bits)

W = WORD (16 bits)

L = LONGWORD or LONG (32 bits)

Lets look at the MOVE instruction. This is the most used instruction the 68000 has for offer. The Addressing modes really help bring out the power of this little instruction.

For example, `MOVE.W #10,D0` uses immediate data and data register direct addressing modes. The end effect of this instruction is that D0 contains decimal 10 after execution. For a complete run down of the addressing modes and the MOVE command look in the examples subdirectory on your assembler disk (read below).

Most of the actual tuition for this section will be the well commented source code files. Also that way you can compile (assemble) them and check what's happening with the machine code monitor. The example sources will cover all of the aspects of the commands covered, as well as reinforcing what has been learned before.

SETTING UP YOUR ASSEMBLER DISK

Included on this months Coverdisk is a self extracting file that will set up your very own assembler disk. This disk contains all of the CLI commands (the Arp versions. They are faster, smaller and allow the use of proper wildcards " "). A public domain assembler called A68k. It is written by Charlie Gibbs and is a good assembler to start off from. I started on this one when I first started 68000 and found it to be an excellent assembler. A lot of changes have been made to it since then and it's now a lot more powerful. (the documents on A68k are in the Docs subdirectory) I now use the Devpac assembler (Version 3), as it is a lot more professional and faster (since my programs usually are over 20000 lines). A Linker called Blink by the Software Distillery, a Machine code Monitor by Timo Rossi and a Text editor called TxEPlus by Microsmiths.

*Continued on
page 20*

Public Domain

One of the latest releases on PD is this Guide to Cult TV Shows by Chris Murphy in England.



As you can see this package covers six of the most loved American TV shows. For each show you are given a list of the cast and their character names within the show as well as a credit list showing producer, director etc.



Next we are given a basic premise of the show and some general background information like "The first ever Star Trek had

Jeffery Hunter cast as Captain Pike".

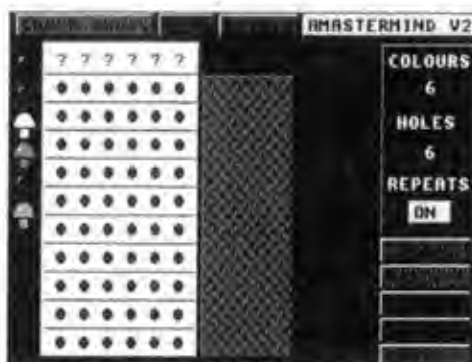
If this is not enough for the sixties TV fan hidden within you, then you can pour over the list of episodes for each show. In this list we are told who wrote each episode, who directed it and who guest starred in it.



Whilst this program is in essence just a database with pictures, it will appeal to anyone who holds a place in their heart for people like James Kirk and Will



Robinson.



Newly sent for inclusion in the well known FRED FISH Collection, is a great shareware game by Andrew Kreibich from South Australia. Amastermind V2 is very similar to the old pin and hole game that was mounted on a plastic board. The object of the game (for those who don't know) is:

Under the question marks at the top of the play board are a number of coloured pins. What you must do is find out the order in which the hidden pins have been placed. To do this you are given six different colours, the hidden ones can be any combination of these colours. By placing the colours in some sort of order you can try to work out the solution. Of course it is much easier if you take note of the hints given in the column to the right of the play board.

A white marker indicates a right colour but a wrong column.

A black marker means you have both the correct colour and the correct column. These markers are not in the right position with regards to the correct pin.

To make your mind boggle even worse, Andrew has made the number of pins to be guessed a variable that ranges between four and eight. So you can obviously end up with a major brain strain if you play this for too long.

For more information on this game or any others written by Andrew, just write in to OZAmiga and I will put you in touch with the author.

KIDS PAINT

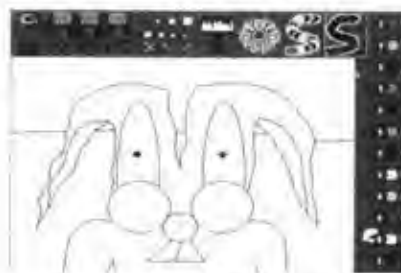
Kids Paint is a terrific new offering for children through the public domain software. Kids Paint is like a very basic Deluxe Paint which enables the child sit draw for hours with out having a mountain of paper and pencils all over the place.

The screen format is very much self explanatory and the icons used make this very simple for children as young as four to comprehend.

The clear screen icon for instance is simply a small black screen.

Children have the option of eleven brush tips to use being four round, four square, a cross and two diagonal slant tips. All brushes can form continuous lines when holding down the mouse button.

Next icon along the top bar is a large paint brush. This changes the background colour of the screen.

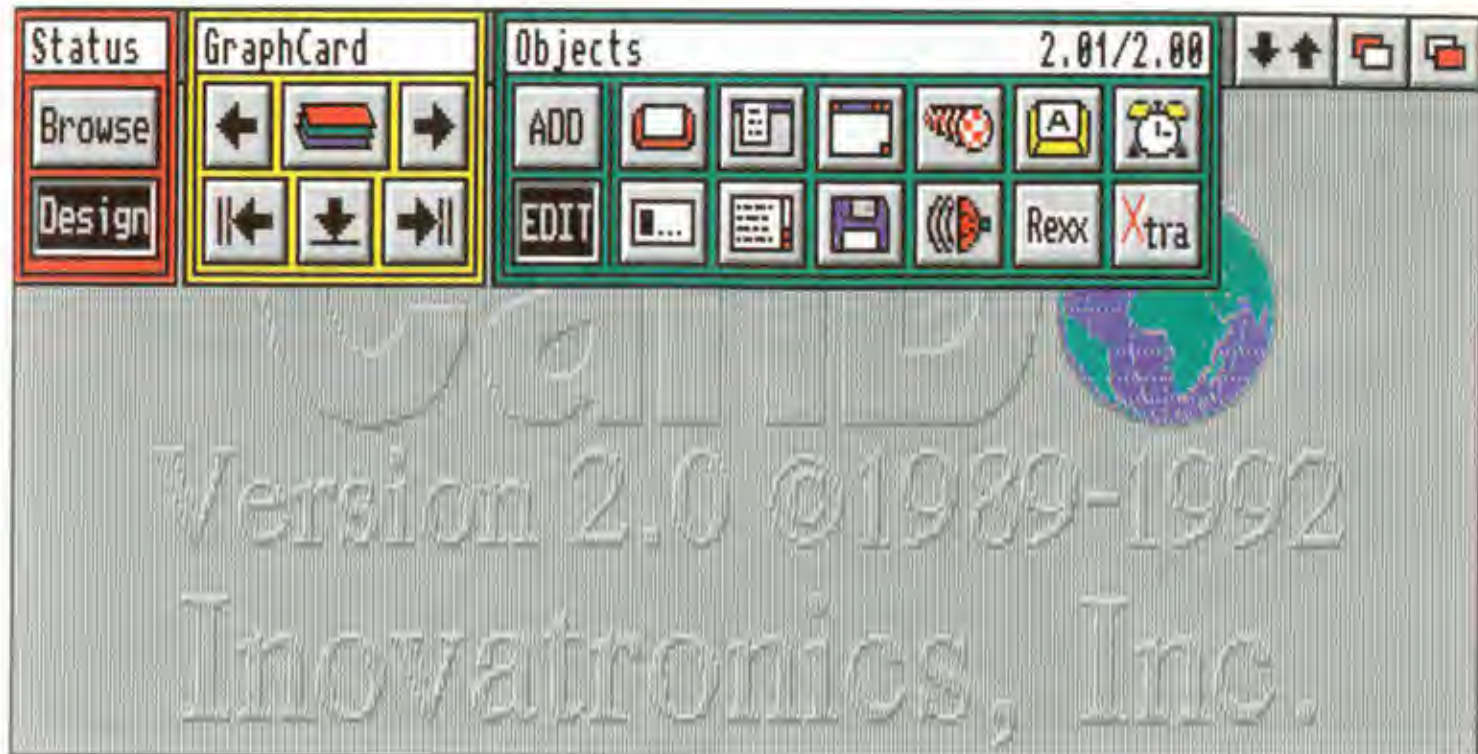


A rainbow coloured "S" gives children a continuous multicoloured brush which functions with any brush tip chosen.

Down the right hand side of the screen are eleven tubes of paint and simply clicking on the colour of your choice is all that is required to alter your brush colour.

Kids Paint also has voice instructions for each icon enabling children to understand each option as they choose it.

This package, I feel, is a very worthwhile acquisition for any parent as you are guaranteed of endless hours of quiet children. Kids Paint offers your child the chance to express all their creative talents in a simple to use format.



Inovatronics have released this new and updated version of CanDo to great acclaim. As I, unfortunately, did not get to see the earlier versions, I will word this article accordingly.

The manual states that CanDo is a revolutionary, interactive, software authoring system designed solely for use with Amiga computers. I have to agree with this statement as I have seen nothing to rival it for power, versatility and ease of use.

CanDo is used to create real Amiga software with little or no programming experience.

Use picture, sound and animation files created in your favorite application programs (like Dpaint and Pro-tracker) to customise your games, databases, utilities and interactive presentations.

When you first open your manual, there are two tutorials for you to work through. Tutorial number one takes you over very basic operations such as loading pictures and sound files, creating buttons and selecting fonts, borders etc.

Tutorial number two goes in depth into **cards**, how they fit into a **deck**, what these things are and how to manipulate them.

As you work through this tutorial you are in fact building a database program designed to list all of your home video library. This database holds the name of the movie, it's number in the list and a brief description of the title. You can add titles, delete titles, sort them into alphabetical order, load, save and even search for a particular title.

Another of the excellent examples supplied with CanDo

Churchill, Eddie Foley, Cash Hardison, Tom INOVATRONICS Martin, Tim Murray, Martin		Search... Add
Name Churchill, Eddie		Search Next Delete
Address	Phone (214)340-4991	
Comments	Mr. Gui	

It took, incredibly less than one hour to create from scratch.

Whilst this may not seem to be a very complex database, it incredibly took less than one hour to create from scratch.

Further examples are supplied, including one called Home Budget. This program has the ability to handle multiple accounts,

transaction tracking, budget tracking, non-budgeted transfers, account reconciliation and yearly rollover.

It is very difficult to go into too much depth in this article as I haven't had much time to look at the program, so I will include in the next edition a comparison between CanDo version 2, Amiga Vision and Scala.

Supplied by:
Desktop Utilities
Previewed by:
David Reeves

A-600 Breakthrough or Bomb

John Doyziyl
gives us his
views.

The Amiga 600 has been put down by the European computer press as nothing more than a cute toy. Sales have been slow. Many critics say the machine is a mistake; that Commodore has got it wrong.

However, a detailed examination of the A-600 reveals that Commodore has in fact got it right. Here's why.

The first thing people notice about the A-600 is size. It's small. Not much bigger than a laptop. This goes against the old "bigger is better" mentality that many people have, and is probably why the A-600 has had slow initial sales.

Despite being smaller, the A-600 is as powerful, if not more powerful than the standard Amiga 500. It has the Extended Chip Set fitted, including a Fatter Agnus that can address two megabytes of chip memory. It has one megabyte of chip memory as standard.

The ESC also provides a Productivity screen mode and a SuperHires mode. Productivity mode can display a four colour, non-interlace screen of up to 640 x 480 without flicker on a multi-sync monitor. SuperHires can display a four colour, 1280 x 256 screen on a PAL monitor. These modes are useful for serious applications.

As time passes, people will realise that size of the A-600 is an advantage. For someone who is always on the move, this is a big plus. The size of the Amiga 500 makes it clumsy and awkward to move around. Especially if you have a TV modulator hanging out the back. By comparison the A-600 is small and sturdy.

In the A-600, the modulator is built in. Making connection to any PAL television quick and tidy. The joystick

port is located on right hand side. This is much better than having it on the back, as it was on the A-500.

These two features show that Commodore took a thoughtful approach when designing the A-600. This thoughtfulness is also shown with the inclusion of a industry standard "Credit-card" slot, the PCMCIA.

PCMCIA will be the standard that most computer manufacturers adopt. Modems, hard drives and memory cards are being developed for this standard. Apple has even included a PCMCIA slot on it's new pen based Newton. Commodore have long term plans for the A-600, or they would not have included the PCMCIA slot.

Commodore covers the A-600 with a one year manufacturer's warranty, as opposed to the old three month warranty. This can be attributed to the use of surface mounted components on its circuit board, which makes the A-600 more reliable.

This extra warranty shows that Commodore has a new faith in the A-600. In the UK, Commodore has even gone as far to offer on-site maintenance as part of the warranty.

Included with A-600 is the Kickstart 2.0 ROM and Workbench 2.05. For Amiga users who have not seen this in action, this is big improvement on 1.3.

Workbench on machines up to 1.3 was a joke; a very average program selector. Workbench 2.05 on the other hand compares favorably with Macintosh and MS Windows 3.0 environments. Workbench 2.05 is powerful and easy to use.

One version of the A-600, the A-600HD, comes with an in built hard drive. This comes formatted and installed, and is available in sizes ranging from 20 megabytes to 120 megabytes. Some retailers are offering a 40 megabyte drive as standard. The inclusion of a hard drive make the A-600 a good machine for serious personal and education use.

For word processing, the A-600HD is unbeatable. Teamed with a program such as Excellence! v3.00, it is as good if not better than something like MS Word on the Macintosh or IBM.

The hard drive makes spell and grammar checks very quick. It also avoids the tedious disk swapping that is often required with floppy based computers.

Price-wise the Amiga 600 also compares favorably with it's main opposition the Macintosh Classic.

The basic Macintosh Classic comes with a standard 2 megabyte of RAM, monochrome monitor and 40 megabyte hard drive. This can be picked up for under \$2000, and has gone down as low as \$1700.

A similar A-600HD set up would cost as follows: A600HD with 40 megabyte hard (\$900), extra megabyte RAM expansion (\$150-\$200), 1084 Stereo monitor (\$400). With even more discounting, these prices might come down even lower.

The big advantage with the A-600 is that it is a colour machine, as opposed to the monochrome Mac. Straight away, the A-600 can handle applications that require colour graphics, which the Macintosh Classic doesn't have a chance of doing.

The other plus with the A-600, is that with the addition of A-Max, it will run almost all Macintosh software. You won't find a Macintosh that can run Amiga software!

So far I've looked at the advantages of the A-600, unfortunately there are a few disadvantages too. Despite having a megabyte of memory, most users will run into memory problems, especially machines with hard drives using AmigaDos 2.05. This is because of the amount of memory that the hard drive and AmigaDos 2.05 chew up. This can be partly overcome by booting from disk, using CLI or getting the extra megabyte for the trapdoor expansion.

One of the potentially most satisfying uses for the Amiga is to design your own programs. Even if you don't want to turn pro, you may be curious about learning how it is done or creating something from one of your own special interest areas.

I bought my Amiga 500 about 3 and a half years ago and sat down and wrote my first program. *Beagle's Adventures* it was a text adventure game consisting of branching paragraphs. With very little programming knowledge I only used 3 commands PRINT, STOP and GOTO. I was completely flummoxed by the INPUT statement. The Amigabasic manual gave the syntax as INPUT, *as* and has never been corrected. To date I have written over 50 programs with about half of these released on public domain.

In the beginning I knew nothing, eg. what is a file etc??

With persistence I was able to learn Amigabasic from the manual and my first large program appeared on Fred Fish a few months later.

A600 Breakthrough or Bomb

By: John Pospisil

The second main disadvantage is the loss of the key pad that was available on the A-500. For me this has not been a great loss. However some software uses the keypad for hot keys, so users of that software might be disadvantaged.

The A-600 comes with a less powerful power supply than the A-500, so that it is only possible to add one external floppy drive. The expansion port of A-500 has been completely omitted. This has been replaced with the "credit-card" slot. Whether this slot has the same capabilities for expansion is yet to be seen.

Overall the A-600 is well thought out machine. Commodore is trying to address some of the short comings of the A-500. The inclusion of a hard drive (in some models) is a real break through. Low end Amiga users have up to now been denied an affordable hard drive option. On most other computing platforms this feature is standard.

Once people overcome the psychological block to buying a "smaller" machine like the A-600, it is likely to become as popular as the A-500, and who knows, maybe even the Commodore 64.

HINTS FOR USE WHEN DESIGNING YOUR OWN PROGRAMS

BY: WILLIAM JORDAN

I used Amigabasic because it was free and a C compiler seemed very expensive. Amigabasic was the most advanced basic in the world in 1985, some of the things it could do could only be done in assembly on other machines, and had some good features. Now it is hopelessly out of date.

Then I used AC/Basic which was about twice as fast, and one of the first basic compilers.

What programming tool should the hobbyist/part-time programmer use? Assembly fans cry speed while C-Programmers point out that C is recognised as the best general programming language and the industrial standard.

Both require a fair bit of work before significant results are achieved. Amiga owners are in a good position these days. They also have the choice of the powerful AMOS (though I can still see ways in which Amigabasic is better), the possibly even better Blitz Basic 2 and authoring systems, such as Amigavision and the very powerful Cando. Other good basics are Hisoft and GFA-Basic, neither of which I have used, but have good reputations. For quick results in the early stages, the authoring systems are probably better. From what I have seen Blitz Basic is the easiest to learn, while still being fast and powerful.

The tool you choose depends on how much time you have, your temperament and what you want to write.

It is important to use a good fast text editor. I didn't even know what features to look for early on. With time, you become more and more intolerant of waiting for the computer. This is not impatience, just efficiency. Good documentation is vital, sloppy manuals are common and bad news.

If you are just starting, its good to keep a few ideas in mind. With

experience, as you develop familiarity with a language and develop masses of programming technique your programming speed increases geometrically.

Some things that took me months I can now do in hours. Persistence is a very important asset, the beauty of program-

ing is that you can reuse a program from months before and modify it with your latest knowledge.

Development speed can be reduced to a rough formula.

System X Programming tools X Programmer skill & Experience. A weakness in one or more of these areas will greatly slow things down. For example, a hard drive is a great asset for the programmer, while a slow compiler is bad news.

It is important to keep your programs as organized (structured) as possible. As your programs become more complicated this becomes more apparent. Write code that is easy to understand, use mnemonic labels, variable names etc. Write code that can be transported from program to program.

There are 2 types of errors you can make: syntax and logic. Syntax errors are either due to a lack of familiarity with the language or from simple typos. Logic errors are due to faulty logic, usually things being done in the wrong order or branchings going to the wrong place etc. Tracking down bugs is potentially the greatest time consuming task. With experience you develop techniques such as isolating the area causing trouble, checking variable values, writing small test programs etc and even developing an intuition for the type of error and where.

Time can be wasted doing something that is impracticable. Assess whether something can be done before doing it. Lateral thinking can be used to get around many problems. If one approach is hazardous, use a better one. It is easy to lose flexibility and be stubborn. Sometimes a bug may be very hard to find, but can be bypassed by a simple method such as including a one line statement.

There is no limit to the variety of the programs that can be written. I hope this article is helpful to both new and old programmers.

fun school 4



The Fun School series is the latest educational offering from Europress Software, which I feel, should have been titled "A God send for parents". A superb combination of both graphics and sound coupled with very cleverly animated rewards. It will keep the kids entertained for hours and educate them at the same time.

What more could you possibly ask for?

For ages up to five, the first package contains six different programs with each offering three levels of difficulty. Level one is basically controlled by the space bar and return key as they are the two largest and easily identifiable keys whilst levels two and three cover the majority of keys on the keyboard. For parents of children with a very short attention span this package is a must. I have honestly never seen anything that could compare with Fun School 4 for holding three to seven year olds' attention for such a long period. Children will literally sit in front of the computer for as long as they are allowed to. The manual that accompanies this program is written in the form of short stories covering each activity that Teddy, the main character does throughout his busy day.

a simple beep and the child tries again so there is far less emphasis put on errors.

This module covers basic addition, colour and word recognition as well as art and music. It is both a challenging and rewarding package that will do wonders for any young child's confidence and self esteem.



To start your child on Fun School 4 requires no more than five minutes supervision, you simply read the first story and help them through the first couple of frames and then leave them to it.

Correct answers are highly rewarded both graphically and audibly whilst an incorrect answer is

Freddy by finding the missing letter or number in a sequence. When the correct answer is given, Freddy will shoot the ball into the basket, when the answer is wrong Freddy will miss. When Freddy has shot the correct number of baskets you go onto the next level with more difficult questions.



Freddy's next adventure takes him to the **SHOPPING MALL**, where he is given a list of products and their prices displayed on a wall. He is then

given a selection of coins, the value of which is highlighted by pointing at it with the mouse. The child's task is to answer questions by giving the appropriate coins to reach a certain product value. Of course this gets a bit more difficult as you progress to higher levels.



Freddy now goes to his **LOG CABIN** where we find a gaping hole in the wall. To fix the hole the child must answer questions on

maths, for each correct answer Freddy will take a log from the pile and fix a section of the broken wall. Level one deals with addition, level two deals with multiplication, level three covers subtraction and level four, division.



At the **LILY POND** the child must give the opposite of a given word by getting Freddy to jump to the lily with the answer on it. If the answer is

correct one of Freddy's

friends will climb up the ladder one rung closer to the diving board. When all of Freddy's friends have dived into the pond you go up to a harder level.



Last in this module is the **TYPING** section, designed to help children find their way around the standard QWERTY keyboard. In this adventure the child has to help Freddy

stay ahead of the crocodile by typing the letter, word or sentence shown above. If the typing is finished in time Freddy will reach the safety of the fly in the centre of the pond, if not gobble!! gobble!!

The sections in this module are also very colourful and accompanied by appropriate sound effects. Because of this they grab and hold the interest of children within the specified age group. The teaching content begins quite simply but rapidly progresses in difficulty to provide the challenge needed to stimulate young minds.

Fun School for ages seven to eleven is, as you could imagine, a bit more difficult than the previous modules, but then, it is aimed at a higher age group.



In this module the child takes the part of agent Q's assistant.

PROPORTIONS is made up of three levels in which a player must answer a number of questions on

decimals, fractions and percentages to give agent Q all the information needed to complete this test. The child must achieve the correct number of answers within the time limit or Q must go back to the beginning.



SPY QUIZ is formed as a series of questions relating to subjects like the capital cities of certain countries, the spelling of particular words and

the location of countries within a continent. The questions are posed with multiple choice answers giving an answering time limit of approximately 30 seconds. A correct answer will have our intrepid little spy climbing a rope to

reach his ticket to the next level. An incorrect answer causes a pot plant to drop upon agent Q's head making him start at the bottom again. There are four levels to this section each with questions harder than the previous one. Believe me some of the questions in level four had me stumped.



EXCHANGE RATES as you may have guessed is an exercise in mathematics where you are given the exchange rates for five different types of currency

(pounds, marks, pesetas and lire). You are then asked to perform a variety of equations such as converting pounds to marks and then finding the cheapest item on the shop counter. There are three levels of difficulty each with a different style of equation to solve.



Sitting in an airport lounge, waiting for a plane agent Q decides to play a game with the arrival and departure times. Using flight times going all over the world **TIME**

TABLE gives four levels of difficulty. If you combine keen observation with basic math, the questions in this section are not too hard but are enough to keep the mind working.



TRAVELS runs through four levels, each with different objectives. Level one just shows the name of a continent when the pointer is placed

over it. Level two asks for the pointer to be "sailed" to a particular continent and the names are not displayed. Level three asks you to "fly" to a given country and level four will ask for capital cities. The next two levels are the hardest (as they should be) because they are after much more specific data on major landmarks. Levels five deals with bodies of water such as the Red Sea or the Atlantic Ocean and level six deals with places of significance on land eg. the leaning tower or Angel falls.

As you can imagine this section would come in handy to school kids of all ages when brushing up on the dreaded geography.



DESERT DATES is set in Egypt against a backdrop of pyramids. Agent Q is given five mallets with which to find the treasures hidden behind certain stones in the

pyramid. The stones have dates printed on them which are the multiple choice answers to questions about important events in history. In levels one and two you only need give the century in which the event occurred, while in level three the dates are given in decades and in level four you must get the exact year to open the stones.

The Fun School 4 series is the complete learning aid for children between the ages three and eleven. This covers most of the primary school years and can be a major boost to a child's education. The information contained in the series is taken directly from the English school curriculum which is being used throughout England and Wales.



Review copy supplied by
Computer Software and Peripherals

Reviewed by
David Reeves and Juliet Way
Special assistants

Dale 10
Chris 9
Tania 7
and Jessie 4

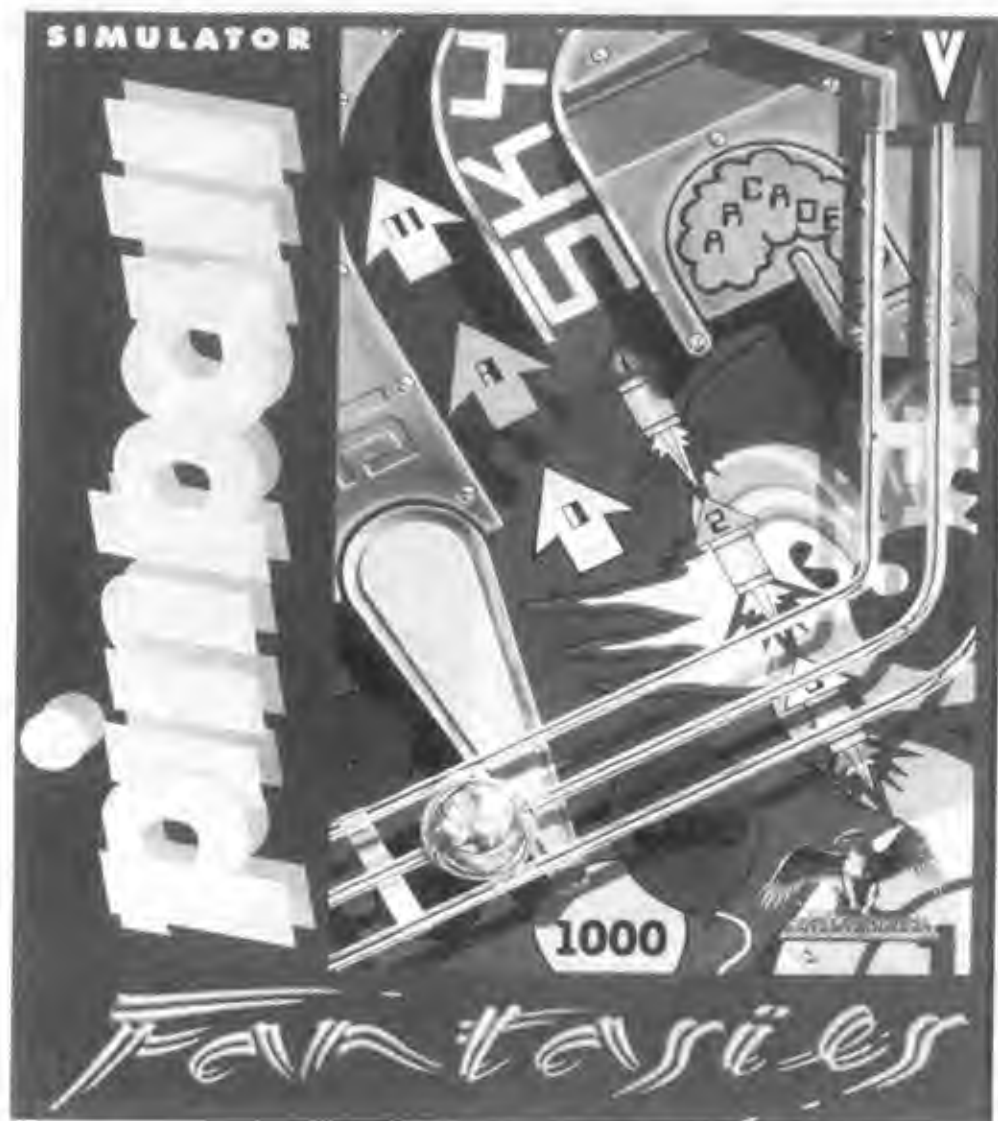
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and noisy boxes of lights, well you need to see this game. In most respects it is so close to the real thing, (once you get used to the very smooth and fast scrolling animation), that you probably won't bother going to an arcade to play one. The sounds and in game music are very atmospheric and each of the 4 supplied tables has unique sounds and music that fits the theme of each table admirably. For example the "Stones and Bones" table has nicely morbid graphics and equally fitting in game sound and music. At the other end of the spectrum is "Partyland", which has lovely happy music and sound effects and a very LOUD colour scheme. This is without a doubt the best pinball simulation I, and many of my stunned non-computer onlookers have seen. It's nearest competitor is Pinball Dreams also by 21st Century Entertainment. It also makes an excellent demonstration of what the Amiga can do. I only have a few rather trivial, but none the less important criticisms. Why are the disks non-dos? It doesn't seem to be because of some high-speed disk loading system, as seen on quite a few other game. At times the loading does seem quite long winded and at some point the screen goes completely black. The reason I mentioned the black screen is, the first time I loaded the program, I wondered if my Amiga had crashed, as it does on occasion.

Pinball Fantasies, the sequel to the stunningly successful Pinball Dreams. If you liked Pinball Dreams, you're bound to like Pinball Fantasies, it's better in most

respects. If, like me, you (mis)spent most of your childhood playing pinball instead of doing sport or going to school, or if you just have some strange fascination or attraction to those large

Reviewed by: Raff Leroy

Supplied by: Headlam Computers



Programming ASSEMBLY

Cont.

Break into DOS when the Coverdisk first boots up (by holding down CONTROL D). If you have two drives then type "Assem DF1:" and the extraction process will start. If you have one drive then type in "COPY Assem ram:" then "RAM:Assem DF0:". Then put your blank disk into DF0 and press Y.

The assembler disk, when booted, will copy all of the above programs into the ram disk to speed up assembling. A make file will also be copied into ram. I have made this for you to save on your typing. To use it just type in "x make <program name>" or "x make ex1" if you want to assemble the first exercise source code.

The assembler disk is supplied as is. You are free to modify it anyway you want or if you have a harddrive, then you can just copy the files you want from it.

A68K

This is the program that does it all (well most of it). It takes the source code of an assembler program and converts into Object code. It looks through the source code for errors and will report them back to you if any have been found.

Blink

Since the Assembler converts the source code into object code, we must have a program to convert the object code into executable code that the Amiga can run. This program will do this as well as patch in other object files and libraries if you need them. (we won't)

ED

The text editor allows you to edit your text files. I have selected this program because it is small, fast and powerful compared to some of the other text editors around. It will take a while getting used to this program. It has a lot of key activated commands. Once they are understood it will make things go a lot faster. Press the right mouse button

to bring down the menus. Just experiment with them, they are all self explanatory. To edit a source file just type in ED <filename>, this will load the editor and also load in the source code <filename>.

Make

Due to the assembler and linker requiring a few arguments for them to work, I have made this little batch file to save your fingers. To use it just type in "x (execute) make <source code name>" (without the .s extension) The final executable will be found in the ram disk (as well as the object code (they have a .o extension).

Mon

Now this program is complex to master. It allows you to load up any executable program and watch its progress as it runs. It is mainly used for debugging programs since you can watch what's happening to the registers. Pressing HELP will bring up a list of the commands that mon accepts. Here is a run down of the one we will be using most.

L <filename> "eg. l ram/ex1" This command will load an executable into memory. The program won't be run. When you load a program, it will display a loading address. Keep note of this number.

D <address> "eg. d 1A120" This will disassemble the code at <address>. Looking at the original source code and then disassembling the executable code, you'll be able to see the way the source code looks when compiled.

J <address> "eg. j 1A120" Jump into the program and execute it. It will not return to the monitor until it has finished or an error occurred. The great thing about machine code monitors is that if they spot an error, then it will tell you where the error occurred and what type it was. You can then look at the code and maybe see your mistake. If a program is run from Amigados, and a serious error occurs (not very hard to do) the machine will crash in a ball of fire and the guru meditation will make it's dreaded appearance.

W <address> "eg. w 1A120" The walk command will step through the code one line at a time and then return control back to you. It will display the

register contents and the next line to be executed (walked). Just type in "w" again to walk through any more lines. This is useful for checking that the program is handling the registers correctly (Working!).

M <address> "eg. m 60000" Will memory dump the data at <address>. The output will be displayed as 4 hex longwords and 16 ascii graphics corresponding to the hex data.

R Displays the current register contents, the status flags and the program counter.

X Exit back to DOS.

That's all Folks

Yep, that's it for this issue. You now have your very own assembler disk and a few example programs to help you come to grips with assembler and the way source codes are structured.

Next issue, I'll start in a big way and give you quite a lot instructions to learn. I want to teach you as quick as possible as I want to get into programming the Amiga's hardware sooner rather than later. (After all that's what you're here to do).

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LURE OF THE Temptress

This game is the first of it's kind, using what the authors have termed "Virtual Theatre". Imagine if you will, that you are standing in a room looking out of a window onto a village courtyard. In the courtyard you can see people involved in a conversation. You can listen in on that conversation.

Next, lets say one of the conversation's participants leaves the courtyard and enters the building you are occupying. Does he just disappear or does he open the door and enter the room? Well, in Virtual Theatre he enters the room,



just as in real life. All the characters involved in this saga of defiance against oppression lead their own lives and carry out tasks for which only they know the purpose.

You play the part of Diernot an ex-soldier who was recently in the king's service. Due to an unfortunate turn of fate, he now finds himself in a lonely prison cell, guarded by one of the evil Skori. Your task is to escape from jail, then find and defeat the sorceress Selena who is responsible for the revolt in Turnvale.

To do this you can enlist the help of friends, even to the point of having them carry out tasks while you are busy doing other things. You will need to talk to as many people as possible to find the answers to some of the questions and riddles but be careful whom you ask which questions, as some of the subjects are sensitive and can get you killed. Because of the virtual theatre style of play you can peek from one location to another, keep an eye out for cracks in the walls and small gaps as these can provide vital information about who is in the next location and what they are doing. It is also a good way to hear things certain people dont want you to hear.

The world created by the authors is just full of interesting little surprises like tunnels that drop you on your behind and friends with hidden talents.

This game comes on four disks and unfortunately does not seem hard disk installable. Even from floppy disk though, it is not too slow. Artwork within the game is very good as games go but I felt more could have been done with sounds as only certain screens and actions have sounds associated with them.



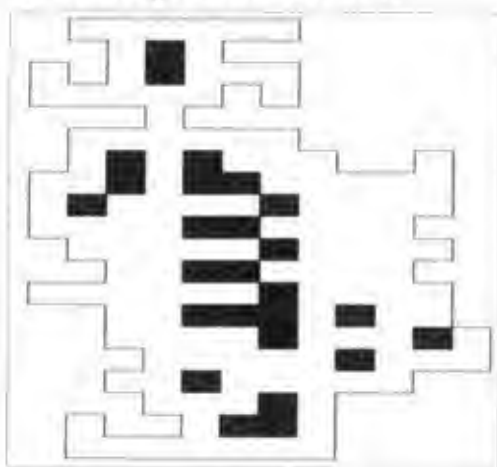
Reviewed by - David Reeves
Supplied by - Headlam Computers
RRP - \$69.95

Send friends off do do tasks

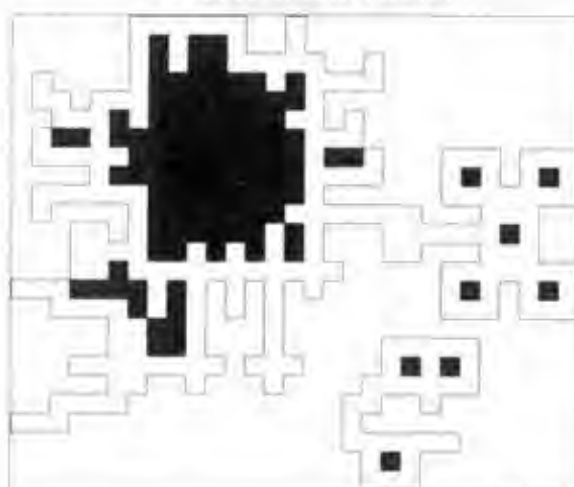


Two maps from Eye of the Beholder 2

Underground Level 5



Cleric's Barracks



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The Family Circus Video Workshop is designed to help you create your best videos ever. Based on the nationally syndicated Family Circus comic strip, the Video Workshop allows you to tap the full potential of your CDTV, camcorder and VCR to customise and enhance your own home videos - both new and old. Add the humour of this comic family with the Video Illustrator, featuring hundreds of full colour Family Circus comics. Each and every panel can be recorded onto your home videos, directly from your CDTV. The comics have been specially chosen to introduce every family occasion - Mother's Day, Halloween, Birthdays and more. Design and compose your own home movie title screens, with your choice of typeface and background graphics with the Custom Title Lab, for use with or without The Family Circus comic art. Use the sound studio to produce dozens of easy to use sound effects, all ready to dub. Improve your video skills in minutes with the 10 Commandments of Better Home Videos, an illustrated "how to" segment. The Video Workshop is released in English, with German, Italian, Spanish, French and Japanese versions to follow.

FRED FISH COLLECTION (NOW VLS 1 - 700)

This CD contains the entire Fred Fish collection from 1 - 700. The collection is freely distributable software Public Domain and Shareware programs. The disk also contains a high speed utility for producing Fish disks from the CDROM in two minutes or less.

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AMOS

With Neil McKnight

I'm going to take a slightly different tack with explaining the AMOS commands than did Simon. Instead of a command a month, I'll be giving you a host of related commands for you to experiment with. This way you get to learn AMOS in sections, and YOU decide what section is next by your letters.

Playing With Graphics

Amigas can do some pretty wonderful things graphics wise, so this month's installment is all about graphics. This edition I'll concentrate on colour and drawing commands. Later on I'll move on to bobs, sprites and other such things.

Colour on the Amiga

In simple terms the Amiga has 32 colour registers. Each register acts like one of those multicoloured pens you find in supermarkets, except that instead of four different colours you have over 4000. Even though two pens might both have red ink, they would still be different pens. So think of a colour register as a multicolour pen and you won't get confused. I'll use the term pen as much as possible.

The first graphics command we'll use allows you to pick which colour a particular pen is using. The command is called COLOUR, so it should be easy to remember.

The syntax for COLOUR is:

COLOUR pen,RGB5

where <pen> is the register number from 0 to 31 and <RGB5> is a four character string consisting of a dollar sign and a single hexadecimal (base 16) digit for each of the amount of red, green and blue we want to mix to make the final shade.

Mixing colours is not that difficult once you get used to it. Because we are mixing light, and not paint, we use red,

green and blue as primary colours.

Different amounts of each of these will give us any shade we want.

Light mixes by subtraction. Mix two primary colours together and the result is lighter and somewhere in-between the two original colours.

Examples:

\$f00 = maximum red and nothing else = bright red

\$0f0 = maximum green = bright green

\$00f = maximum blue = bright blue

\$ff0 = red + green = yellow (really!)

\$0ff = green + blue = cyan

\$f0f = red + blue = magenta (purple)

\$fff = everything = white

\$000 = nothing = black

\$777 = everything at half brightness = grey

As there are 16 possible levels of each primary colour, you can have $16 \times 16 \times 16 = 4096$ different colours.

So, to make the background purple, type this:

**DEFAULT
COLOUR 1,\$f0f**

and press F1 to run it.

The PALETTE command allows you to set a whole range of colours at once. Just supply the <SRGB> vales for the pens you want to change like so:

PALETTE pen0,pen1,pen2...

where <pen0> is the colour value of the first pen, <pen1> the second etc. A single palette command can change any or all colours at once, just leave a comma between the pens you want to skip, like so:

Neil McKnight is taking over as our AMOS consultant as of this edition. Due to the fact that he has been thrown in at the deep end, Neil has just supplied some useful information for you. To help this section grow, please send in queries and comments to Neil so he has a solid direction in which to fly for next edition. The address is the same as the one for subscriptions on the index page.

PALETTE \$f00,\$0f0

means to change pen 0 to red, leave pen 1 as it is, and make the colour of pen 3 bright green.

OK, now that we can play around with colours, let's actually draw something on the screen with the built in drawing commands.

First we decide which pen to use. To do this we use the INK command. The INK command sets the pen for any graphics commands to follow. It simply has the syntax:

INK pen

where <pen> is the pen number. Simple!

Now we'll draw a line on the screen. The command for this is DRAW (see, I told you it was easy). All we have to do is tell it where to draw from and where the line will end.

The syntax for DRAW is:

DRAW x1,y1 TO x2,y2

where <x1>,<y1> is the coordinate of the starting point and <x2>,<y2> is the end point.

The X value ranges from 0 to the width of your screen, the zero point being on the left hand edge. The Y value ranges from 0 to the height of your screen, the zero point being at the top of the screen. It's just like a piece of graph paper except that, because a TV picture is scanned from the top down, the beginning point is at the top left corner of the screen.

You can also continue drawing from your current position by using:

DRAW TO x3,y3

where <x3>,<y3> is some other place on the screen.

The DRAW command lets you draw all manner of straight lines at whatever angle you want. But if you want a box there is a special command for it called BOX.

BOX *x1,y1 TO x2,y2*

This works exactly like DRAW, so it should be easy to get the hang of.

But what about a filled in box? There is another command called BAR that does exactly this.

BAR *x1,y1 TO x2,y2*

Once again it works the same as the others. Please note that the ending coordinate must be lower down and to the right of the starting point for BAR to work.

You can also draw more complex shapes with these two commands:

POLYLINE *x1,y1 TO x2,y2 TO x3,y3 TO ...*

POLYGON *x1,y1 TO x2,y2 TO x3,y3 TO ...*

which draw either a hollow polygon (POLYLINE) or a filled-in one (POLYGON) between any number of coordinates you care to specify. This works well for triangles and many other shapes.

If you get tired of straight lines, try these:

CIRCLE *x,y,radius*

ELLIPSE *x,y,hr,vr*

they let you draw perfect circles (CIRCLE) starting from the point *<x>,<y>* and having a radius measured in pixels, or you can draw ellipses (ELLIPSE), which are flattened circles, by specifying different values for the horizontal radius *<hr>* and the vertical radius *<vr>*.

The last command for this month is PLOT. It plots a single pixel on the screen (good for drawing stars and such). The syntax is:

PLOT *x,y,pen*

where *<x>,<y>* determine some point on the screen and *<pen>* is the pen number to use. Note that *<pen>* is optional, and if supplied will cause this to be the new pen number for any drawing commands that follow.

Well, that's all from me for now. If anyone has any questions or suggestions, then don't hesitate to write to me and I'll try to deal with that topic as soon as possible.

Send all correspondence to:

OZAmiga AMOS section
PO Box 567
Mirraboooka
WA 6061



Cont...

comments (good or bad) are taken into consideration when selecting the direction we wish to take in future editions. We seem to have an effective recipe on the go and from all accounts we can only get better.

Regards,
Dave

Dear Editor,

I am pleased to see an Australian Amiga magazine. I find the overseas variety too hard to follow and am never sure if the products are available in this country. I also appeal to you to keep (at least some of) the instructions on reviewed products and software, at a beginners level.

We have recently upgraded from an A500 to an A2000 and are still learning how to make the best use of the machine's capabilities. Keep up the good work.

Ched Elego
Victoria

Dear Ched,

We are pleased that you like the magazine so far and hope you continue to enjoy future editions. Many others besides yourself have requested for instructions and reviews to be kept at a beginners level. As we are trying to produce more articles specifically for beginners, you may find this is exactly what you are requesting. We are also endeavouring to keep the language in all of our articles as basic as possible whilst still supplying the necessary technical information. We have found the number of beginners is very large and hope not only to help these people but also those a bit more advanced.

Regards,
Dave

Dear people at OZAmiga,

Just a little note to tell you how excited I was to find your publication. Since the demise of the Professional Amiga User, I have been pulling my hair out trying to find another dedicated Australian Amiga magazine. So imagine my surprise when looking through the computer magazine section at my local newsagent, I found your magazine hidden away behind some British publications. I know ACAR is Australian but it is not totally dedicated to the Amiga, besides they don't supply a coverdisk.

I will eagerly await the next editions arrival at my local newsagent. Thanks for a fantastic magazine.

Cliff Elliott
Victoria

Dear Cliff,

The demise of the Professional Amiga User was a sorry blow to all of it's regular readers. It was the closest thing to a magazine for power users that this country has seen to date. As you may imagine, the inclusion of a coverdisk with our magazine was a very big decision. As it turns out, it was a good decision and we hope to improve on the coverdisk in a number of ways. We would like to see the disk become a show place for the work of Australian programmers, as well as using it to supply code and such to accompany the tutorials and reviews within the magazine.

Last of all, I am glad you enjoyed the magazine and I hope to hear your views on future editions.

Regards,
Dave

Please send your letters to:

Letters To The Editor
PO Box 567
Mirraboooka
WA 6061

Choosing a Computer

An insight by Peter Furey

When choosing a computer you must first ask yourself: what do you need one for; who is going to use it and why; and, is it all included in the price or will I have to buy other parts, like a monitor and extra disk drives or memory?

All computers do the same basic thing. All have their own peculiar ways of achieving the same result, but some do it better than others.

Computers and Schools

Most children use a computer at school and it is of no real benefit to buy a computer which is identical to the school computer. Usually the work that a child does at school never leaves the school, simply because the boring word processing or data base curriculum does not encourage the child to keep it up at home.

Some teachers, afraid of a Virus infection will not allow the students to bring any computer data from home to the classroom.

Why Use Amigas?

In W.A there are some schools which specialize in computer graphics and video techniques and these schools use Amiga computers for two reasons.

The main reason is the low cost. To set up a single Apple Macintosh colour computer which will perform as well as the Amiga would cost in excess of \$10,000.

The Amiga's perfect video compatibility is also a determining factor.

Can I write letters on any computer?

Word processing is simply the art of writing letters or reports using an electronic device, usually a computer. All computers use a software program to do this and it sometimes costs extra.

Some computers come with a word processor as standard, but the quality is usually basic which limits the performance and flexibility.

Which programs are the best?

As a general rule the more money you spend on your program the better program you will get, but there are exceptions to the rule and it would be prudent to view a demonstration of anything before deciding to buy.

It is best to get a word processor that can include pictures or graphics, because you will soon find out it is a desirable option.

All computers can keep records or databases but again you may have to buy the program separately.

I have seen the software, will it work on an old computer?

Not all the latest programs will work on an old or cheap computer. Most of the latest IBM software packages require an expensive or fast computer with lots of memory to run them.

A Hard Drive.. Is it necessary?

The biggest boost to any computer's performance is the installation of a hard drive. Without a hard drive, all the programs have to be used from a floppy disk and this can prove to be slow and often frustrating.

Hard drives can store the programs from all your floppy disks and will load them instantly for you. No wasted waiting time.

IBM compatible?

The big force in computer retailing is the over selling of the IBM compatibility. Unless you use an IBM computer at work and intend bringing your work home to do then it is not necessary to have an IBM compatible computer.

I am sure that most office workers choose to have IBM computers at home because it provides them with an opportunity to practice their computer skills in their leisure time.

What about Versatility?

Some computers only do a single task. An example of this would be a dedicated word processor which can only be used as a word processor and nothing else.

Most computers can be used for a number of tasks. Some of the more interesting uses are graphics or computer art, animation, (make your own cartoons) video production, (add scrolling credits or titles to your video tapes) and music (make and play any music and print out the result.)

Public Domain?

Sometimes it costs a lot of money to buy the software programs which do these wonderful things but there are also a lot of cheap or free programs around. These free programs are in the PD (Public Domain) and are written by people who enjoy computing and wish to share their skills with everyone.

There are two major sources of PD. Some people run small businesses which sell PD quite cheaply and can take the credit for the large amount of quality PD software available in Australia.

Another way to get PD software is to join a Computer User Group. These Groups also collect PD software for distribution to their members.

VIRUS?

WARNING! Sharing software can be a risky business and invites the visit of a computer Virus. A computer Virus does not usually do much harm other than reproducing itself, but some have the ability to wreck your software.

It is fast becoming necessary to have a good virus checking program ready to inspect all software before using it on your computer.

Don't become a Bore!

THE BIGGEST DANGER associated with owning a computer is that they have the ability to rule your lives and become addictive. **Don't Let It!!!**

Win \$20

Across

2. Involving a form of computer control operation in which sequential events take place at fixed times. (11)
5. A binary digit. (3)
8. A type of memory that is used in high performance systems. (5)
10. A collection of distinct objects of any sort. (3)
11. A logic circuit that produces outputs that are intended to provide co-ordination stimuli for other logic circuits. (9)
12. A series of battles against an opponent. (3)
15. A game in which you take the part of a fictional character. (3)
17. The set of software products that jointly control the system resources. (9,6)
20. A printer that uses a beam of light to initiate a photographic process. (5)
22. Any program that is specific to the particular role that a given computer performs. (11)
23. To identify and remove localized implementation errors. (5)
24. A common boundary between two systems, devices or programs. (9)
25. The creation of many small areas of memory, which comes about as memory is allocated to and then released from processes. (13)
26. The use of more than one method to produce a result eg. pictures, sounds and animations. (10)
27. A measure of the amount of information in a given dimension of storage medium. (7)

Down

1. A transmission method that makes use of radio broadcast signals. (6,5)
3. A material whose electrical conductivity increases with temperature. (4,9)
4. A set of statements that can be submitted to a computer and then used to direct the behaviour of that computer. (7)
5. A signal route to which several items may be connected in parallel. (3)
6. A program often given with a software package that is designed to teach you how to use it. (8)
7. An office program used to compose and edit documents. (4,9)
8. The particular hardware elements and their interconnection within a computer system. (13)
9. Something that is measured in hertz. (9)
12. A position for an operator that is equipped with all of the facilities required to perform a particular task. (4,7)
13. The written representation of machine code. (7,8)
14. Any character not in the character set of a given machine is an " " character. (7)
16. Any system whereby a source of information is enabled to convey that information with due regard for efficiency and reliability, to a destination. (13)
18. One of a set of keys that can be used to initiate macros with a single keystroke. (8,3)
19. A prescribed set of well defined rules or instructions for the solution of a problem. (9)
21. To change the interpretation of characters. (5)
23. Direct memory access. (3)



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BBS PREFERENCES
A A N Y
S H D B T SUBSCRIBE
I A I E C
CONDUCTOR DIR PASTE
D O N P
BUS TOUCHSCREEN R P
H U T E U
CHARACTER M I B A B
K C A E C I D L
D I C H M N S D O S I
I N U E T I H C
S G M X I R A C T O R F E E D
K U A I E E O
DOUBLEDENSITY CRT M
R A E O T A
INPUT C C N M I I
V D I U LOGON N
E PARAMETER D N
A E A
ASSEMBLER SIMULATOR
    
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Here are the solutions to
the puzzles in last edition



mini Office

Database
Wordprocessor
Graphics
Spreadsheet



Mini Office is designed to turn your Amiga into a complete office system for the home or for the running of a small business. This powerful suite of programs includes a wordprocessor, database, spreadsheet, graphics facility and a disk utility. Each of these programs can be used independently or because mini office is an integrated system, they can be linked together so that information can easily be swapped from one program to another.



Wordprocessors have almost completely replaced the typewriter in the modern office environment, although the advantages are not always immediately obvious. Apart from the fact that the bulk of each letter or document need only be typed once, with retyping confined to corrections and alterations, sentences and paragraphs can simply be moved around until the best result is achieved. The mini office word-processor, like many others, comes with its own spell checker to help achieve a professional result.

A database is like a card index filing system where you can keep names, addresses and other details of customers or clients. In the home a database can be used to catalogue your compact disc collection or as a recipe file. If you organise your database correctly with the appropriate cross reference tables,



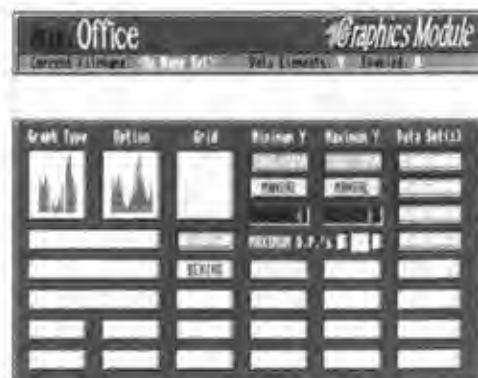
you will find it very easy to locate a customer who has specific requirements or a recipe that uses particular ingredients.

Spreadsheets look complicated, but in reality are just tables with columns and rows. They can be used for simple lists, for example a stock list for keeping track of stock levels and stock value. Each "cell" of the spreadsheet can contain text, numbers or a formula. The use of formulas to manipulate numerical information is one of the main benefits to using a spreadsheet. For example you could use a formula in a stock list to multiply the price of each



item by the quantity in stock, to give you a total stock value. Each time a figure used by the formula is changed, the new value is calculated instantly. Thus spreadsheets can be used to develop budgets, cash flow forecasts etc.

EXIT



The graphic module allows you to take numerical information from the spreadsheet etc and express it as graphs, bar charts or pie charts. For example you may wish to show your monthly sales figures as a bar chart or possibly look at your yearly electricity expenses as a graph. Graphs and charts are very useful tools for looking at information from another point of view and are just the ticket for inclusion in presentations and business plans.

Mini office allows you to take information from one program and incorporate it into another. For example, all the names and addresses you keep in your database can be used to head letters written in your wordprocessor.



Mini office also incorporates a disk utility program so you can perform the usual disk housekeeping like moving files, copying, deleting and renaming. The operating controls for each of the modules have been made as user friendly and intuitive as possible, so even the new comer to computing will find them easy and logical to use. The producers have also included a step-by-step tutorial for each module, so you can quickly learn to use all of the basic features of mini office.

Reviewed by David Rees
Supplied by Computer Software and Peripherals

RRP \$170.00

CDTV List Continued

"BELCANTO DOMINGO"

The graphics channel features English and Italian versions of the libretto with decorative borders.

BERLIOZ "SYMPHONY FANTASTIQUE"

The graphics channel combines story description accompanied by a visual dream sequence based on the works of Harry Clarke.

MENDELSSOHN'S "SYMPHONY NO. 4"

The graphics channel offers a full length musical analysis with notation examples as well as historical and mood images.

MOZART'S "MAGIC FLUTE" (HIGHLIGHTS)

The graphics channel offers the German and English versions of the libretto with colourful images of the characters.

MENDELSSOHN'S "SYMPHONY NO. 2"

This disc provides musical notation accompanied by selected images.

PROKOFIEV'S "PETER AND THE WOLF"

Track 1 on this disc illustrates the story in a watercolour style and track 2 provides an instrument-by-instrument commentary.

HANDEL'S "MESSIAH" (HIGHLIGHTS)

The graphics channel on this disc annotation of both variation sets with colourful images characteristic of Beethoven's era.

BEETHOVEN'S "DIABELLI VARIATIONS"

The graphics channel provides annotation of the music interspersed with paintings of the life of Christ.

RAVEL'S "BOLERO"

Full details not at hand.

BACH'S "A MUSICAL OFFERING"

Full details not at hand.

MOZART'S SYMPHONY NO. 40"

Full details not at hand.

EDUCATION

A BUN FOR BARNEY

For children aged 3 to 6. Animated story about a bear. Incorporates learning games and songs, and encourages early learning.

ANIMATED COLOURING BOOK

Using up to 61 crayon colours, children can create pictures by colouring and then bringing them to life through animation.

ALL DOGS GO TO HEAVEN

Ideal for children between 3 and 10 years of age, with 30 delightful pictures and spoken words and songs.

ASTERIX ENGLISH FOR FRENCH 1

ASTERIX ENGLISH FOR FRENCH 2

ASTERIX FRENCH FOR ENGLISH 1

A fun way to learn French. Over 6,000 words are used in this exciting story starring Asterix - with real people talking real French.

ASTERIX FRENCH FOR ENGLISH 2

ASTERIX & SON ENGLISH FOR FRENCH

ASTERIX & SON FRENCH FOR ENGLISH

ASTERIX & SON LEARN ITALIAN

ASTERIX ITALIAN FOR ENGLISH 1

ASTERIX ITALIAN FOR ENGLISH 2

ASTERIX & SON LEARN GERMAN

ASTERIX GERMAN FOR ENGLISH 1

ASTERIX GERMAN FOR ENGLISH 2

ASTERIX & SON LEARN SPANISH

ASTERIX SPANISH FOR ENGLISH 1

ASTERIX SPANISH FOR ENGLISH 2

BARNEY BEAR GOES TO SCHOOL

For children aged 2 to 6. Consists of two segments - Storytime and Schooltime. Children can select and play learning activities.

BARNEY BEAR GOES CAMPING

For children aged 2 to 6. A colourful game that will teach children about animals, nature and the environment.

CINDERELLA

The Classic story, but with a difference. An aid to pronunciation, syllables and word meanings. In English and Spanish.

EMERGENCY LANGUAGES

Going abroad at short notice and can't speak the language? Emergency Languages is for you. Useful phrases covering all those everyday needs from Taxis to airports to a drink in the bar, are read out to you. Don't be at a loss for words, get a crash course in French, German, Spanish, Italian, Japanese and Danish.

ENGLISH AS A SECOND LANGUAGE

Full details not at hand.

FRACTAL UNIVERSE

Create your own Fractals and also learn the history and the complex mathematical formulae used to create them. View images never before seen and enjoy a continuous display of pre-generated fractal images.

FUN SCHOOL 3

Available for the under 5's, it consists of six educational activities that help to develop many skills including number, shape and word recognition. Your child can learn at his/her own pace. Beautifully created pictures, stunning animation and exciting sounds make learning fun and effective. Three packages, each with a suite of six multi-level programs. Each program is aimed at different age groups, under 5, five to seven years and over seven years. There are

several levels of difficulty in each activity. A parent/teacher guide is included.

FUN SCHOOL 5 TO 7's

The five to seven pack follows the under 5s successful formula of six educational games, each with several levels of difficulty, covering all the children's favourite subjects. These help develop many skills including number and work skills at a child's own pace. The games are Toyshop, Electricity, Collect, Funtext, Time and Journey. Beautifully created pictures, stunning animation and exciting sounds will keep children coming back for more again and again.

HEATHER HITS HER FIRST HOME RUN

The bases are loaded, her friend Jeffrey is on third, and everyone is calling for a home run as she steps up to bat. All in all, it's a pretty frightening moment for Heather - but she comes through. Heather Hits Her First Home Run is a story of how children fair in life's crucial moments. This book shows children the value of perseverance and team spirit.

LOGICAL

Full details not at hand.

LTV ENGLISH

Helps people learn English as a second language. Designed for use in a family setting, with more than 150 exercises to improve oral comprehension.

LONG HARD DAY AT THE RANCH

A young boy imagines his days at his aunt and uncle's Western style ranch. Written in the form of a letter home.

MIND RUN

A set of exercises to test your intellectual aptitude. Challenging tests on memory, stress, reflexes, listening, logic etc.

MY PAINT

Is an easy to use, educator approved and classroom tested paint program designed especially for children. The interface is entirely based upon intuitive symbols. No reading skills required. Features include colourful, animated symbols for all tools, a complete colouring book of over 100 pictures, sounds which accompany each picture, multiple brush sized, special 'surprise' pictures, special effects, colour cycling, and more. Included with the program is a series of educational 'colouring book' drawings which teach the alphabet, phonetics, reading skills and other concepts.

MOVING GIVES ME A STOMACHEACHE

This warm, sensitive story explores children's feelings about moving and shows them that it's not so bad after all. As with any of the Discis Books, you can ask it to read your favourite passages, to explain or pronounce unfamiliar words, and even to identify objects in the accompanying pictures. The wide range of built-in educational options include music and sound effects to enhance reader appreciation. In English and Spanish.

**CONTINUED OVER
PAGE**

MUD PUDDLE

Have you ever wondered how kids get so dirty? Meet a walking mud puddle and see how it continually ambushes and hurls girl until she gets the better of it. As with any of the Discs Books, you can ask it to read your favourite passages, to explain or pronounce unfamiliar words, and even to identify objects in the accompanying pictures. The wide range of built-in educational options include music and sound effects to enhance reader appreciation. In English and Spanish.

NORTH POLAR EXPEDITION

An adventure game for groups of 5 to 10. Stumbles a journey to the North Pole. Tests the user's aptitude for survival. Contains sounds and pictures from real Arctic expeditions. Includes a book called To the Ends of the Earth, written by Sir Ranulph Fiennes.

OUR HOUSE

Helps children explore the uses of everyday objects in the home, and takes a look at what life was like in generations past.

PAPER BAG PRINCESS

A fairy tale with a contemporary twist, the princess is the heroine! Gives pronunciation, syllables and word explanations. In English and Spanish.

READ WITH ASTERIX

Full details not at hand.

SCARY POEMS FOR ROTTEN KIDS

Whether you are frightened by goblins or (Gerbilgeks), fog phantoms, or even the dreaded picket monster, you'll find lots of chuckles and chills in Scary Poems for Rotten Kids. As with any of the Discs Books, you can ask it to read your favourite passages, to explain or pronounce unfamiliar words, and even to identify objects in the accompanying pictures. The wide range of built-in educational options include music and sound effects to enhance reader appreciation. In English and Spanish.

SCRABBLE FRENCH

Full details not at hand.

SCRABBLE ENGLISH

Full details not at hand.

THOMAS' SNOWSUIT

For children aged 5 and over. A story teaching syllables and word meanings. In English and Spanish.

THE TALE OF PETER RABBIT

The classic story of Peter Rabbit. Teaches pronunciation, syllables and word meanings. In English and Spanish.

THE TALE OF BENJAMIN BUNNY

A teaching story with Peter Rabbit and Benjamin Bunny. Pronunciation, syllables and word explanations in English and Spanish.

VIDEO MAKER

Full details not at hand.

ENTERTAINMENT

BAT (BUREAU OF ASTRAL TROUBLESHOOTERS)

BAT is an adventure game that lets you become the one agent of the B.A.T. who can save Terrapolis. It's so life-like you will never want to come back!

BATTLESTORM

The future of the Empire is in your hands. You will need all the help you can get if you are going to destroy the Battlestorm starships and launch your final attack on their headquarters.

BATTLECHESS

An entire medieval world at war is reflected on the checkered field. Colourful and dramatic 3D animation. Over 4Mb of animation and 10 different difficulty levels. 400k of digitised sound effects. Modern capability for remote play. Opening library of 30,000 moves. Play against a friend, against the computer, or let the computer play itself.

BASKETBALL

Basketball brings all the on-court excitement and back-room strategy of real-life basketball into your own home. The NBA League allows you and a friend to own, manage and coach your own basketball teams. Recruit from the Minor Leagues, improve your current roster at training camps, trade for other players with varying ages, injuries and abilities. Team stats chart the past 30 years of every team in the league. All-time individual and team records kept for the history of your franchise.



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HOUD OF THE BASKERVILLES

Sherlock Holmes, the world's greatest detective, is now available on a single CD-ROM. The complete set of 60 exciting stories are beautifully illustrated in full colour. All text is complemented by atmospheric music. Features include over 250 colour illustrations relating to the text, appealing graphic display, bookmark facility, choice of ten custom fonts and a search facility.

INDOOR SPORTS

Four high quality, challenging games will keep you entertained long after other games have been retired from competition. Get the ball rolling with Bowling. Darts won't leave you bored. Get a rush from Air Hockey. Finish off with a generous serving of Ping Pong. Not just a collection of short 'events', Indoor Sports gives you four stand-alone games in one package. The set features superb graphics, multiple levels of play, smooth animation, and one and two player options.

LEMMINGS

Lemmings establishes a brand new category of game for the Amiga. You've never seen anything like it! Hordes of tiny characters that you have to guide through many levels of obstacles and adventures building bridges, digging tunnels, climbing mountains, parachuting to safety. Get them on their way through each level as quickly as you can, or they start to inundate you and happily proceed to their own oblivion. Each level requires you to construct increasingly complex routes to save as many lemmings as you can. Lemmings features tiny, incredibly detailed and expressively animated characters up to 100 lemmings on the screen at once! One player or split-screen two player action. This is one of the best problem-solving games ever made.

LOGICAL

A mind boggling game involving balls of four different colours, rotating receptacles and fast reflexes.

LUNAR RESCUE

All your wit and skills will be challenged in this race to rescue the crew of Apollo 19 stranded on the moon during a mission. Digitised NASA footage provides realism. Cinematic cut scenes create suspense. An animated Space Database teaches you important facts about space and our solar system using digitised graphics and sound effects. Features include: digitised miniature sets and plastic models and a professionally orchestrated CD AUDIO sound track. Over 20 Mb! The disk contains English, French, German, Italian, Japanese and Spanish.

MAD TV

Details not at hand.

MANY ROADS TO MURDER

Many Roads To Murder can be a disappearance or robbery. Which one depends upon your first choice of plot lines. Your second choice determines the next plot twist. The stories evolve in unexpected directions from smuggling to espionage, from collegiate revenge to a mysterious African expedition. As the title suggests, there are many roads to choose from. Each one challenges you to solve an excitingly different mystery adventure. This disk contains hundreds of images and a dramatic audio track.

MBG-29 FULCRUM

Tly the Soviet Union's MBG-29 Fulcrum, probably the best fighter aircraft in the world. A simulation which combines real sounds and images to produce the thrill of combat and give an unprecedentedly high level of unique and accurate technical detail. Prove your skills in an array of gruelling missions in real-life scenarios. A totally realistic interactive flight simulator.

MIND RUN

A set of exercises to test your intellectual aptitude. Challenging tests for your memory, stress, reflexes, listening, logic etc.

MIND RUN II

Consists of a set of exercises to test your intellectual aptitudes and to use for evaluation and personal development. This interactive product includes fun and challenging tests to sharpen your capabilities in memory, stress, listening, reflexes, logic, and understanding of machines. You can control the level of difficulty for each type of test. This graphical challenge will engage and entertain you for many hours.

MURDER ANYONE?

Challenges you to discover who killed Derrick Reardon. You must crack the alibi of the eight suspects: the victim's ex-widow's wife, his spinster sister, his playboy brother, his extremely private secretary, his teen-aged ward, a mysterious German businessman, the family doctor and of course, his killer. Each of the 10 stories has a unique puzzling solution that will test your sleuthing skills. Clues are presented as a series of full colour images with a dramatic audio track.

MURDER MAKES STRANGE DEAD FELLOWS

Dark clouds gather like mourners at the ancestral home of Randolph Stieve, patriarch of the Stieve family. As the night falls, so falls Randolph, right down the staircase within his mansion. But he really left the world five years ago when he lost his wife Irene. Strange stories have grown up around this ominous place since Randolph secluded himself here and no one can say what will happen now? Try to discover Randolph's last wishes and find out if ghosts really walk in Stieve Manor in this comedy thriller.

NAM

The longest and most controversial conflict in US history. A war fought in the White House and in the steaming jungles of S.E. Asia. As president you can use your political and military skills to change the course of the war and rewrite history. Balance military commitment against public opinion. NAM is an extremely accurate strategic model of the Vietnam War, with great playability. It combines historical detail from pages of the real tabloids of the Time and Time Life magazines, with actual music, reports and film of the era, to produce a highly entertaining simulation. This is the Apocalypse Now for CDTV.

NINJA HIGH SCHOOL COMIX

Is a tongue-in-cheek comic book in a CD. Jeremy Tuppel, an otherwise normal American kid, gets involved with the strangest characters when a princess from outer space and the daughter of a secret Ninja society start competing for his affection. Hundreds of pages, hours of fun and much better looking than those

silly titles.

PSYCHO KILLER

Is an interactive TV experience. Shot on location in Southampton, England, it uses photographic images and real actors. High quality audio and digitized images create total reality. The plot and game are interwoven. You are the hero, you must save the girl held by the psycho killer. You find Psycho Killer, solve, rescue his potential victim, and escape. The story varies based on how you play.

PSYCHO KILLER II

Uses new interactive techniques. Psycho Killer II is an interactive movie where you are the hero. You must track the Psycho Killer down through the eyes of a Psychic Investigator. But who is the Prey? What forces are at work? There has never been anything quite like this before: the trailblazers of CD interactivity have broken through into new creative territory. Contains adult simulation, nudity, language.

POWER PINBALL FOR CDTV

Pinball is the best. Over a dozen games for the price of one disk. A truly realistic pinball simulator. It reacts with the same snap, the same action. Each machine offers different challenges, digitized sounds and exciting graphics.

PRO TENNIS TOUR II

Offers more options than the average player encounters in the real world. This simulation game includes training programs where you can choose from a variety of opponents, male and female, various court surfaces, personal skill levels including strengths and weaknesses, and singles and doubles or even 'dirty' male triples. Practice well, win the tournaments and you can qualify for the Masters on the Pro Tennis Tour. Your objective is to improve your ranking by participating in major championships, such as the Australian, French and US Open, Wimbledon and Davis Cup. Each championship event is played on its unique surface: grass, clay or cement. The on-screen display, realistic sound effects and two-player option give Pro Tennis Tour the look and feel of an actual tennis game.

PREHISTORIC

Eat and beat your way through 150 scenes of awesome, nourishing fun and relief. The Prehistoric epic in this incredible platform game. Armed with your Diner Club Amicus, probably the ancestor of the baseball bat, you start in pursuit of the Hilarious Maxidogs and take on armies of hairy spiders. Explore the virgin icefields of Antarctica, lush tropic jungles, and the dark and mysterious caverns of the shady continent. Don't worry about heatin' and heatin', it's for the good of the T-bone tribe. The hunt for lunch is on.

SHADOW OF THE BEAST II

Features a new cast of sinister, intelligent opponents, arcade-quality animated sprites, diabolically clever hidden traps and puzzles to solve, multiple inventory control, real-time interaction with intelligent creatures, rich new sound effects and speech. Enhanced audio for CDTV version.

RAFFLES

The Edge Interactive Media introduced their revolutionary '3-D World maker' technique for the first time in 'Fairlight'. Now, here is the equally revolutionary update to 'The Edge's Technique! You take the part of Raffles, probably the greatest cat-burglar of all time, or that's what you thought before you broke into the Brooker Mansion. Once inside, old Lady Brooker traps you there and claims she will not let you out until you help her find all of her lost jewels that are scattered around the mansion! You will explore different rooms in which you can pick up and move individual items in true 3-D space, stack objects, even shoot pool on the billiard table.

SHERLOCK HOLMES - CONSULTING DETECTIVE

Capture the mystery and excitement of Holmes' London in this challenging and informative game. You the player will match your detective abilities against the master sleuth himself, Sherlock Holmes. For the first time ever, experience real-time video and audio as Holmes and Watson interrogate potential suspects chosen by you! Search the London Times newspaper for clues, reference Holmes' files for information, or send the Baker Street Irregulars to gather more valuable information for you. You are presented with a mystery to solve and it is then up to you to trace the threads of evidence through the by-ways and mansions of 19th century London. Sherlock Holmes is an interactive style detective game which utilizes the Hardware and storage capabilities of CD.

SIGN OF FOUR

The second in the Sherlock Holmes series, where the detective's great cases become multi-media adventures. A body lies cold in a locked room. Murdered but how? The door is locked from the inside. The police are baffled. It's up to Sherlock Holmes to unravel the case. Years have passed, and the great sleuth's casebook has come into your hands. With all the clues, notes and records of the crime, relive the baffling case of the Sign of the Four. Follow in the footsteps of Holmes and Watson, try to crack the case yourself or reconstruct the mystery.

SIM CITY

Sim City puts you in charge as both the mayor and the city planner of a dynamic real-time urban development simulation. Build houses, stores, factories, roads, stadiums, airports and parks. Collect taxes and run a city. Bulldoze entire neighbourhoods, cause tornadoes and floods, everything is simulated and animated. With three different time periods, your city will evolve through time from Wild West to future USA. Build the city of your dreams. This program is an excellent teacher of practical economics and budget.

SNOOPY: THE CASE OF THE MISSING BLANKET

This is a colourful, fully interactive cartoon which is a challenge and delight for all Snoopy fans. Snoopy plays detective in this animated cartoon adventure, facing the task of finding where Linus lost his blanket. Snoopy must find the missing blanket and then return it to Linus who is most upset at misplacing it.

SPACE WARS

This is an outer space combat action at its best. One or two players fight it out for a sector of space. Space War follows in the tradition of classics like Asteroids and features arcade

quality graphics and sounds to enhance the heart-stopping action that surrounds your space-faring warship. Play alone or combat another armchair starfighter in the most exciting and dangerous sectors of deep space. The disk contains English, French, German, Italian, Japanese and Spanish.

SPIRIT OF EXCALIBUR

Spirit of Excalibur is an epic quest to restore the grandeur and glory of Arthur's Roundtable. To top off the excitement, the game is accompanied by a grand Wagnerian orchestral score. You explore over 100 beautifully illustrated unique locations and listen to the conversations of the colourful cast of characters in this rich adventure game.

SPY VS SPY

Details not at hand.

SUPER GAMES PACK

Three high-quality arcade games for a single low price. Jaidbreak, Byteman and deathbots. Super games pak CDTV is not a straight conversion of the 5 disk Amiga game. This is a new version with 15Mb of graphics and sound effects. The instruction manual is now on the disk and has graphics and sound effects. Each of the games has its own cartoon-like introduction. As a bonus you get the complete Lunar Rescue intro sequence. This is a movie like sequence which runs for about 14 minutes straight and takes up over 5Mb of disk space. English, French, German, Italian, Japanese and Spanish are all available on the same disk.

TEAM YANKEE

Team Yankee is the definitive action simulation of modern tank warfare. Watch scenarios unfold on 3D with high definitive graphics and keep track of the four tank platoons you control using the unique 4 quadrant display.

THE CARDINAL OF THE KREMLIN

CDTV details not at hand

THE TERMINATOR

Set in present day Los Angeles, The Terminator is the story of an unstoppable cyborg sent back through time from a nightmare future where machines rule the Earth to destroy the mother of the one man who might yet save mankind.

TIEBREAKER TENNIS

CDTV details not at hand.

TOWN WITH NO NAME

Once upon a time, in the west, on the edge of an arid desert stood the Town with No Name. The Hole in the Head Gang had been running pretty wild, shooting up the place and terrorizing the neighbourhood. When the ring leader's kid brother took on the silent stranger who rode in at sunrise, he bit off more than he could chew. The first of the notorious outlaws bit the dust. Now Evil Ebe and his gang, Massive Jake, Wildcard McVee and Big Bad Bart had it in for the Town with No Name and all the peace-loving folk living there. Only the Lone Stranger stood between them.

TRIVIAL PURSUIT

Trivial Pursuit comes to life with full colour digitised pictures, superb animated graphics, stereo music and special sound effects accompanying 2000 of the most trivial and

irrelevant questions. The questions are spoken by well known celebrities, amazing photographs accompany each question, but don't be fooled, they may not provide the answer, intriguing sound and music questions, classic, pop and Jazz. This is one of the best family releases on the CDTV to date. 'Russell' the Master of Ceremonies gives everybody a lot of snick all the way through the game and also gives you a hard time if you are losing. Also wait before answering the questions and listen to the comments he makes if you stop for a cuppa. This is a 'must buy' for the CDTV.

ULTIMATE BASKETBALL

Brings the fast-paced excitement of the court into your home in this 5-on-5 multimedia basketball simulation. You can join in the action on the floor, coach from the sidelines. Do a little of both and even set the game to play itself. With a half-time show and cheerleaders as a part of the action, this is one game you won't want to miss.

WAYNE GRETZKY HOCKEY-2

Wayne Gretzky Hockey-2 simulates every aspect of the game from penalties and power plays to sudden death overtime and instant replays. Create your own players. Make up your own teams, load and save them, or use any of the special teams provided. Set each player's level of performance at any of 11 skill categories. Customized options allow you to control the dual game speed, multiple difficulty levels, practice time, adjustable period lengths and more. With Wayne Gretzky Hockey-2 you control any player, coach from the bench or let Wayne coach while you watch the action from the stands. Overhead, real-time graphics let you experience the finesse of a feather pass, the thrill of a last second save, or the impact of the bone-crunching body check.

WRATH OF THE DEMON

Wrath of the Demon combines state of the art multi-level parallax scrolling with spectacular graphic, animation and playability to bring you what is sure to be one of this year's hottest graphic adventures. You are on a quest to rid the kingdom of an evil Demon and his minions. Rescue the princess and restore honour to your King. Your quest will lead you through caves, swamps, temples, and castles before reaching your ultimate challenge... The demon himself. Wrath of the Demon contains over 3MB of graphics data, 600 screens of action, 1400 frames of animation more than 100 colours on screen and over 100 monsters, some larger than half the screen.

XENON 2 - MEGABLAST

No one likes a bad loser. And no one comes more universally despised than the Xenites. For a thousand years they have been plotting revenge for their humiliating defeat in the last Galactic Conflict. Now they are back and the very fabric of time is in danger. Only you can save the day - not to mention the Universe. The CDTV version offers the player a choice of 12 tracks from artists such as Betty Boo, Bomb the Bass, S Express, and Baby Ford. Digitized pictures and biographies of the featured artist will be included. Other additions include enhanced in-game sound effects, an integral manual which contains further animations, and a chance to hear Crispin, the infamous shopkeeper speak. There is also a choice of five languages for the manual and in-game text: English, French, German, Italian, and Xenites. (The latter is for any aliens who may wish to play the program.)

Whew what a list !!!!!



Not too many years ago, in a land beyond the infinite wilderness of the large sea, Hexas the black magician worked his evil magics. He cast a vial of poisonous fluids into an ominous chest filled with buzzing insects.

"Mine is the revenge!" he yelled triumphantly as his black magic worked upon the harmless insects, transforming them into deadly killer machines.

"My little darlings will destroy your life like you once destroyed mine. You shall be cursed Ikuro!"

The net result of these evil magics was the poisoning of Ikuro's wife and only love Yuri. Ikuro was desperate. If the magician wanted to take blood revenge there would be no rescue for Yuri in her fight against the poison.

"In your worst misery the Bee will show you the way", these were the words of

Ikuro's grandfather as he gave him the talisman he wore about his neck. Grasping the talisman Ikuro prayed with all his heart for a solution to his dilemma. "GREAT PAIN" assailed our hero until it became unbearable and he lost consciousness.

When Ikuro woke he was struck by the reality that the talisman had transformed him into a magic bee! Armed with light swords he now had a possibility of finding the antidote and saving his wife Yuri.

With an angry buzzing sound the avenger started his desperate mission. Using your trusty (and properly working) joystick you can move the bee all over the screen. Pressing the fire button causes the bee to throw the powerful light swords. By holding the button down longer you can energise for

a very powerful blast.

By picking up the red flowers left behind when certain enemies are destroyed, you give the bee many weapon options, some of which are: **BOMBS** - You can have a maximum of two, one dropping to the ground, the other firing ahead like a torpedo.

LIGHTNING - This will strike through your opponent easily. 1, 2 or 3 bolts. There are five worlds to conquer so you may find it helpful to take a friend along to help.

It is rumoured that this game contains bonus levels but I didn't find any, I always disintegrated. Now buzz off to APIDYA.

Reviewed by: David Reeves
Supplied by: Headlam Computers





Dear Denise

I am a nineteen year old university student on a sports scholarship. I am infatuated with a 21 year old girl studying computer sciences but she does not even know that I exist. If I buy an Amiga computer and learn how to program in "C" or "Machine code" do you think that will get her attention?

Bif (full name withheld)

Dear Bif,

I sympathise with your problem and I think that buying an Amiga could help. But don't bother with learning to program, just take it to the university campus and hit her over the head with it.

Bon chance,
Denise

Dear Denise,

My husband and I have been married for six weeks now and although he couldn't leave me alone at first, since buying an Amiga 2000 computer he spends every evening with both hands clamped around that damned joystick of his! What do I have to do to get the attention that I deserve?

Gloria Lushbuttocks (NSW)

Dear Gloria,

This is the electronic age, so you must fight fire with fire! Disguise yourself as a "GVP combiboard" and loiter near your husband's computer. I guarantee he will be drooling over your coupling capacitors before you can say "floppy disk".
Your sympathetically,
Denise

I have recently been experiencing a strange phenomenon with my Amiga computer. If I use "Diskmaster" to view the contents of my RAM disk, I occasionally find unexpected text files named "ReadMeFirst". The first file read "Knock Knock"; another read "Don't call us, we'll call you"; and the last one read "We have photographs of your sister"! Are these messages a part of the inbuilt operating system?

Weird Al,
Graylands WA

Dear Al, or may I call you Weird,

These messages are definitely not part of the Amiga operating system, so might I suggest that you have your doctor review the current dosages of your medication.

Yours in dementia,
Denise

Dear Denise,

My kids have asked me to write to you on their behalf, regarding one of the games that came with Amiga 500 which I bought second-hand. The game is called Workbench 1.3 and we just can not figure out the object of the game!

Please help,
George D'Orque, NZ

Dear George,

The object of Workbench 1.3 is to open all the drawers that you see on the screen and then try to fit all the items on the screen (including the other drawers).

into just one drawer before the number at the top of the screen reaches zero. You will need a left mouse hand for this one George!

Your "Top Gun",
Denise

Dear Denise,

I am the proud owner of a new Amiga 600 and being a novice user I found your magazine a godsend. Not only is the magazine good (and a local product) but it came with a free coverdisk. My problem is this: When I went to copy my Magnatron game to a blank disk, I accidentally copied it over the original disk thus losing everything. Could you please explain what "compressed" is and how to avoid mis-copying in the future.

Without a coverdisk,
Boris Perlaki
Box Hill Vic.

Dear Boris,

Thanks for the praise, I am glad to hear we approach divinity in your eyes. In answer to your question, compressed means that we have got the program and used a compressor to make it smaller so you get more on your coverdisk. P.S. I will send you a new one, try not to wipe it.

Exasperated,
Denise

And finally to reverend McPharland NT
Yes reverend, what you describe could prove damaging to your Amiga. Might I suggest that you seek professional help.



*Merry
Christmas*

*and a
HAPPY
NEW
YEAR*



Well 1992 has been a year with many unforeseen happenings, through it all our main base of readers has remained loyal to the OZAmiga ideal.

As you found out in this edition we have a relatively new crew mixed with a couple of old timers.

We have big things planned for the coverdisk in the coming year as well as a definite commitment to supply you, our readers with quality information that uses as many aspects of the Amiga's capabilities as possible.

If there is anything you would like to see covered in detail, please write and let us know.

Many Regards and I hope to see you again in the new year,

Reeves

David Reeves
Editor

Portfolio

of an

Artist.

*The artwork on display this edition
was sent in by Ian Harris
If you would like to see your work shown
here just send it in to*

*OZ Artists Artwork
PO Box 557
Mimbricka
WA 6051*



"CHATEAU" Ian Harris 1992 640x512 16 colours

